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                0*  FILE CORROSION
               65   FILE DISSABS
                5*  FILE ENCOMPLIT
               15   FILE INSPEC
                2*  FILE INSPHYS
                1*  FILE IPA
               87*  FILE JICST-EPLUS
                2   FILE KOSMET
               21   FILE NTIS
               45*  FILE PAPERCHEM2
              120   FILE PASCAL
              116*  FILE PROMT
               42   FILE RAPRA
               41   FILE RDISCLOSURE
              342   FILE SCISEARCH
                4   FILE TULSA
                1   FILE TULSA2
                3   FILE WATER
                1   FILE WELDASEARCH
               49   FILE WSCA
L1               QUE FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
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     FILE 'CAPLUS' ENTERED AT 09:20:30 ON 04 JAN 2007
L2          469 S FLUORINATION AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
L3          300 S L2 AND SYNTHE?
L4          265 S L3 NOT PY>2002
L5            5 S L4 AND SACCHARIDE
L6       257181 S SUGAR AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE OR RIBOS
L7           75 S L4 AND SUGAR
L8           53 S FLUORINATION AND (CARBOHYDRATE OR SACCHARIDE)
L9           46 S L8 NOT PY>2002
L10          29 S L9 AND SYNTHESIS

     FILE 'CAPLUS' ENTERED AT 09:41:46 ON 04 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:41:59 ON 04 JAN 2007
                EXP DIFLUOROBENZYL-DIETHYLAMINE/CN
                EXP DBDA/CN
L11           1 S E3

     FILE 'CAPLUS' ENTERED AT 09:43:13 ON 04 JAN 2007
L12         118 S FLUORINATION AND MICROWAVE
L13          73 S L12 NOT PY>2002
L14           6 S L13 AND NUCLEOPH?
L15           0 S L13 AND HYDROXYL
L16           0 S L13 AND DIOL
L17           0 S L13 AND EPOXIDE
L18          15 S DEOXYFLUORINATION
L19           3 S L18 AND MICROWAVE
L20          15 S FLUORINATION AND MICROWAVE AND NUCLEOPHILIC
L21         118 S FLUORINATION AND MICROWAVE
L22         112 S L21 NOT AROMATIC
L23          69 S L22 NOT PY>2002
L24           0 S L23 AND (CARBOHYDRATE OR SACCHARIDE OR RIBOS? OR ARABINOS?)
L25           0 S L23 AND SN2
L26           0 S L23 AND DISPLACEMENT

     FILE 'REGISTRY' ENTERED AT 13:27:59 ON 04 JAN 2007
                EXP TRIETHYLAMINE HYDROFLUORIDE/CN

     FILE 'CAPLUS' ENTERED AT 13:28:38 ON 04 JAN 2007
L27           3 S FLUORINATION AND MICROWAVE AND TRIETHYLAMINE

=> log hold
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	15.46	365.80

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-2.34	-29.64

SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 13:29:41 ON 04 JAN 2007

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      (FILE 'HOME' ENTERED AT 09:18:01 ON 04 JAN 2007)

      FILE 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS,
      BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX,
      CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC,
      INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:07 ON
      04 JAN 2007

      INDEX 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS,
      BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX,
      CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC,
      INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:17 ON
      04 JAN 2007
                SEA FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
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                4*  FILE AGRICOLA
                0*  FILE ALUMINIUM
               12   FILE ANABSTR
               13*  FILE APOLLIT
                1   FILE AQUALINE
                0*  FILE AQUIRE
               93*  FILE BABS
               35   FILE BIOTECHNO
               13   FILE CABA
                2   FILE CAOLD
             1249   FILE CAPLUS
               17   FILE CBNB
                5*  FILE CEABA-VTB
                8   FILE CIN
               83   FILE COMPENDEX
                2*  FILE CONFSCI
                0*  FILE CORROSION
               65   FILE DISSABS
                5*  FILE ENCOMPLIT
               15   FILE INSPEC
                2*  FILE INSPHYS
                1*  FILE IPA
               87*  FILE JICST-EPLUS
                2   FILE KOSMET
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               45*  FILE PAPERCHEM2
              120   FILE PASCAL
              116*  FILE PROMT
               42   FILE RAPRA
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              342   FILE SCISEARCH
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                3   FILE WATER
                1   FILE WELDASEARCH
               49   FILE WSCA
L1               QUE FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
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      FILE 'CAPLUS' ENTERED AT 09:20:30 ON 04 JAN 2007
L2          469 S FLUORINATION AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
L3          300 S L2 AND SYNTHE?
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L9           46 S L8 NOT PY>2002
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L10          29 S L9 AND SYNTHESIS

     FILE 'CAPLUS' ENTERED AT 09:41:46 ON 04 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:41:59 ON 04 JAN 2007
               EXP DIFLUOROBENZYL-DIETHYLAMINE/CN
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L11            1 S E3

     FILE 'CAPLUS' ENTERED AT 09:43:13 ON 04 JAN 2007
L12          118 S FLUORINATION AND MICROWAVE
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L15            0 S L13 AND HYDROXYL
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L17            0 S L13 AND EPOXIDE
L18           15 S DEOXYFLUORINATION
L19            3 S L18 AND MICROWAVE
L20           15 S FLUORINATION AND MICROWAVE AND NUCLEOPHILIC
L21          118 S FLUORINATION AND MICROWAVE
L22          112 S L21 NOT AROMATIC
L23           69 S L22 NOT PY>2002
L24            0 S L23 AND (CARBOHYDRATE OR SACCHARIDE OR RIBOS? OR ARABINOS?)
L25            0 S L23 AND SN2
L26            0 S L23 AND DISPLACEMENT

     FILE 'REGISTRY' ENTERED AT 13:27:59 ON 04 JAN 2007
               EXP TRIETHYLAMINE HYDROFLUORIDE/CN

     FILE 'CAPLUS' ENTERED AT 13:28:38 ON 04 JAN 2007
L27            3 S FLUORINATION AND MICROWAVE AND TRIETHYLAMINE
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FILE 'HOME' ENTERED AT 09:18:01 ON 04 JAN 2007

=> file chemistry
FILE 'ENCOMPLIT2' ACCESS NOT AUTHORIZED

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FULL ESTIMATED COST	0.21	0.21

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FILE 'COPPERLIT' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'CORROSION' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'DISSABS' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'ENCOMPLIT' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'GENBANK' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'INSPEC' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'INSPHYS' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'IPA' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'JICST-EPLUS' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'KOSMET' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'METADEX' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'NAPRALERT' ENTERED AT 09:18:07 ON 04 JAN 2007

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FILE 'RDISCLOSURE' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'SCISEARCH' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'TULSA' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'TULSA2' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'USAN' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'WATER' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'WELDASEARCH' ENTERED AT 09:18:07 ON 04 JAN 2007

FILE 'WSCA' ENTERED AT 09:18:07 ON 04 JAN 2007

=> index chemistry
FILE 'ENCOMPLIT2' ACCESS NOT AUTHORIZED

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	42.42	42.63

INDEX 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC, INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:17 ON 04 JAN 2007

42 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s fluorinat? and (?accharide or sugar or glucose or sucrose or ribose or deoxyribose or galactose or dextrose or starch or cellulose or chitin or heparin)
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          0* FILE ALUMINIUM
         12   FILE ANABSTR
         13* FILE APOLLIT
          1   FILE AQUALINE
          0* FILE AQUIRE
         93* FILE BABS
         35   FILE BIOTECHNO
         13   FILE CABA
          2   FILE CAOLD
       1249   FILE CAPLUS
         17   FILE CBNB
  12 FILES SEARCHED...
          5* FILE CEABA-VTB

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          8   FILE CIN
         83   FILE COMPENDEX
          2*  FILE CONFSCI
          0*  FILE CORROSION
         65   FILE DISSABS
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         87*  FILE JICST-EPLUS
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         21   FILE NTIS
         45*  FILE PAPERCHEM2
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         41   FILE RDISCLOSURE
        342   FILE SCISEARCH
          4   FILE TULSA
  37 FILES SEARCHED...
          1   FILE TULSA2
          3   FILE WATER
          1   FILE WELDASEARCH
         49   FILE WSCA

  33 FILES HAVE ONE OR MORE ANSWERS,    42 FILES SEARCHED IN STNINDEX

L1    QUE FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE OR RIBOSE OR
          DEOXYRIBOSE OR GALACTOSE OR DEXTROSE OR STARCH OR CELLULOSE OR CHITIN
          OR HEPARIN)

=> file caplus
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                  ENTRY     SESSION
FULL ESTIMATED COST                                2.44       45.07

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FILE LAST UPDATED: 3 Jan 2007  (20070103/ED)

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=> s fluorination and (?accharide or sugar or glucose or sucrose or ribose or
deoxyribose or galactose or dextrose or starch or cellulose or chitin or heparin)
         16980 FLUORINATION
        166739 ?ACCHARIDE
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        257181 SUGAR
        414576 GLUCOSE
        146851 SUCROSE
         27354 RIBOSE
          4227 DEOXYRIBOSE
         56632 GALACTOSE
         18288 DEXTROSE
        161834 STARCH
        347923 CELLULOSE
         15975 CHITIN
         48479 HEPARIN
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               RIBOSE OR DEOXYRIBOSE OR GALACTOSE OR DEXTROSE OR STARCH OR
              CELLULOSE OR CHITIN OR HEPARIN)

=> s l2 and synthe?
      2142394 SYNTHE?
L3         300 L2 AND SYNTHE?

=> s l3 not py>2002
      4754028 PY>2002
L4         265 L3 NOT PY>2002

=> s l4 and saccharide
         9787 SACCHARIDE
L5          5 L4 AND SACCHARIDE

=> d l5 1-5 ti abs bib

L5   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Electrophilic Fluorination-Nucleophilic Addition Reaction
     Mediated by Selectfluor: Mechanistic Studies and New Applications
AB   The electrophilic fluorination-nucleophilic addition reaction with
     Selectfluor-type reagents upon glycals has been studied and optimized.
     This reaction leads to selective fluorination at the 2-position
     with concomitant nucleophilic addition to the anomeric center.  To understand
     the stereochem. outcome of this process, a mechanistic study has led to
     the discovery that, in the fucose series, Selectfluor adds specifically in
     a syn manner, yielding a 1-[TEDA-CH2Cl]-2-fluoro saccharide that
     anomerizes slowly to a more stable intermediate.  The anomeric
     α/β distribution was studied as a function of reactants and
     conditions, and it was found that a judicious choice of protective group
     strategy can improve the stereoselectivity of both fluorination
     and nucleophilic addition  Furthermore, a hypersensitive radical probe was
     used to probe the reaction, and no product characteristic of a radical
     process was isolated, suggesting that no single electron transfer occurs
     during the attack of the glycal on Selectfluor.  The importance of solvent
     effect, Selectfluor counterion, and stepwise procedure has also been
     discussed.  This study has brought an important improvement of yields and
     a broader range of allowed nucleophiles such as secondary alcs. of
     carbohydrates, amino acids, phosphates, or phosphonates.  This optimized
     process was further applied to the modification of important bioactive
     mols., including the synthesis of fluorinated daunomycin and
     oleandrin analogs and the oxidation of thio glycosides to the corresponding
     sulfoxides.
AN   1999:372448  CAPLUS
DN   131:130181
TI   Electrophilic Fluorination-Nucleophilic Addition Reaction
     Mediated by Selectfluor: Mechanistic Studies and New Applications
AU   Vincent, Stephane P.; Burkart, Michael D.; Tsai, Chung-Ying; Zhang,
     Zhiyuan; Wong, Chi-Huey
CS   Department of Chemistry and the Skaggs Institute for Chemical Biology, The
     Scripps Research Institute, La Jolla, CA, 92037, USA
SO   Journal of Organic Chemistry (1999), 64(14), 5264-5279
     CODEN: JOCEAH; ISSN: 0022-3263
```

PB American Chemical Society
DT Journal
LA English
OS CASREACT 131:130181
RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
TI Analogs of calicheamicin (gamma)1i, method of making and using the same
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title analogs [I; R1 = H, R2 = C1-6 acyl, Bz, C1-6 alkoxycarbonyl, PhCH2O2C, R1R2 = phthaloyl, OCSSCO, CH2CMe:CHCH:CMeCH2, CH2CH:C(NO2)COC(NO2):CHCH2, CH2COCH2CH2COCH2, et al., Y = Me or PhCH2 X = OR4, SR4, SSSMe, SSMe, NR4 (R4 = H, C1-6 acyl, Bz, C(O)ZR5 (Z = O, NH, R5 = C1-6 alkyl, PhCH2, PhSO2CH2CH2, PhSO2CH2CH:CHCH2), R3 = H, C1-6 acyl, Bz, glycosidically linked saccharide] were prepared and their cytotoxicity to various cancer cells were determined Thus, (-)-calicheamicinone (II) was obtained in 21 steps starting from dioxaspirodecene derivative III and proceeding via dioxaspirodecene derivative IV
and tricyclic dioxolane V.
AN 1993:538984 CAPLUS
DN 119:138984
TI Analogs of calicheamicin (gamma)1i, method of making and using the same
IN Nicolaou, Kyriacos C.; Smith, Adrian L.; Hwang, Chan Kou; Pitsinos, Emmanuel
PA Scripps Research Institute, USA
SO PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9301810	A1	19930204	WO 1992-US5991	19920717
	W: AU, CA, FI, JP, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
	US 5264586	A	19931123	US 1992-915071	19920716
	AU 9223824	A	19930223	AU 1992-23824	19920717
PRAI	US 1991-731432	A	19910717		
	US 1992-915071	A	19920716		
	WO 1992-US5991	A	19920717		

OS MARPAT 119:138984

L5 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
TI All-α-D-linked tetra- and penta- saccharide substructures of Trestatin A by block syntheses with triflic anhydride as promoter
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The perbenzylated maltosyl and maltotriosyl fluorides I (n = 1, 2) were treated with 2,3,2',3',6'-penta-O-benzyl-4,6-O-benzylidene-α,α-trehalose (II) using triflic anhydride as a promoter to give all-α-D-linked tetra- and penta-saccharides which were finally

deblocked to the free oligosaccharides 4-O-α-maltosyl- and 4-O-α-maltotriosyl-α,α-trehaloses III (m = 3, 4). The 1H-NMR spectra of some of the compds. were fully analyzed by 1D TOCSY and ROESY expts.

AN 1993:517649 CAPLUS
DN 119:117649
TI All-α-D-linked tetra- and penta- saccharide substructures of Trestatin A by block syntheses with triflic anhydride as promoter
AU Wessel, Hans Peter; Mayer, Beatrice; Englert, Gerhard
CS Pharma Div., F. Hoffmann-La Roche Ltd., Basel, CH-4002, Switz.
SO Carbohydrate Research (1993), 242, 141-51
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English

L5 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of perfluorinated ethers by an improved solution phase direct fluorination process
AB The preparation of perfluorinated ethers by a solution phase direct fluorination process was described. A relationship between mol. weight and b.p. of certain compds., i.e., those useful as blood substitutes, was established. Etherification of ethylene glycol with tetrafluoroethene gave 39% HCF2CF2OCH2CH2OCF2CF2H (94% pure); the direct solution phase photochem. fluorination of the latter in CFC-113 as solvent gave 85% F3CCF2OCF2CF2OCF2CF3. The etherification of erythritol, xylitol, sorbitol, and inositol with tetrafluoroethene failed; the b.ps. of the expected ethers were predicted.
AN 1992:83168 CAPLUS
DN 116:83168
TI Synthesis of perfluorinated ethers by an improved solution phase direct fluorination process
AU Sievert, Allen C.; Tong, Walter R.; Nappa, Mario J.
CS Jackson Lab., E. I. Du Pont de Nemours and Co., Deepwater, NJ, 08023, USA
SO Journal of Fluorine Chemistry (1991), 53(3), 397-417
CODEN: JFLCAR; ISSN: 0022-1139
DT Journal
LA English
OS CASREACT 116:83168

L5 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of gem-difluorosaccharides
AB Gem-difluorosaccharides were prepared (25-46%) by fluorination (Et2NSF3) of the carbonyl oxygen of isopropylidene protected sugars and glucosides. E.g. 1,2:3,4-di-O-isopropylidene-α-D-galacto-hexadialdo-1,5-pyranose with Et2NSF3 in CH2Cl2 (room temperature, 16 h) gave 46% 6-deoxy-6,6-difluoro-1,2:3,4-di-O-isopropylidene-α-D-galactopyranose. The method is general for sugar aldehydes and ketones in the pyranosyl form.
AN 1978:105663 CAPLUS
DN 88:105663
TI Synthesis of gem-difluorosaccharides
AU Sharma, R. A.; Kavai, I.; Fu, Y. L.; Bobek, M.
CS Dep. Exp. Ther., Roswell Park Mem. Inst., Buffalo, NY, USA
SO Tetrahedron Letters (1977), (39), 3433-6
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English

=> s sugar and (?accharide or sugar or glucose or sucrose or ribose or deoxyribose or galactose or dextrose or starch or cellulose or chitin or heparin)
257181 SUGAR
166739 ?ACCHARIDE
257181 SUGAR

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        414576 GLUCOSE
        146851 SUCROSE
         27354 RIBOSE
          4227 DEOXYRIBOSE
         56632 GALACTOSE
         18288 DEXTROSE
        161834 STARCH
        347923 CELLULOSE
         15975 CHITIN
         48479 HEPARIN
L6      257181 SUGAR AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE OR RIBOSE
               OR DEOXYRIBOSE OR GALACTOSE OR DEXTROSE OR STARCH OR CELLULOSE
               OR CHITIN OR HEPARIN)

=> s s l4 and sugarsugar and (?accharide or sugar or glucose or sucrose or ribose
or deoxyribose or galactose or dextrose or starch or cellulose or chitin or heparin)
MISSING OPERATOR S L4
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nested terms that are not separated by a logical operator.

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'SUGAR' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

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DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
              e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, CLASS

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
              containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
              its structure diagram
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HITSEQ ------ HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):ti

L4 ANSWER 1 OF 265 CAPLUS COPYRIGHT 2007 ACS on STN
TI Convenient synthesis of fluorinated nucleosides with perfluoroalkanesulfonyl fluorides

=> s l4 and sugar
257181 SUGAR
L7 75 L4 AND SUGAR

=> d l7 1-25 ti

L7 ANSWER 1 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Convenient synthesis of fluorinated nucleosides with perfluoroalkanesulfonyl fluorides

L7 ANSWER 2 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 2'-deoxy-2'-fluoroguanyl-(3',5')-guanosine

L7 ANSWER 3 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI A concise synthesis of anti-viral agent F-ddA, starting from (S)-dihydro-5-(hydroxymethyl)-2(3H)-furanone

L7 ANSWER 4 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Chemo-enzymatic synthesis of 3-deoxy-β-D-ribofuranosyl purines

L7 ANSWER 5 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI The taming of fluorine

L7 ANSWER 6 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 9-(2,3-Dideoxy-2-fluoro-β-D-threo-pentofuranosyl)adenine (FddA) via a Purine 3'-Deoxynucleoside

L7 ANSWER 7 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Mechanisms of glycosyl transferases and hydrolases

L7 ANSWER 8 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Divergent synthesis of phosphonate mimics of sugar phosphates: Effect of degree/orientation of α- fluorination on enzyme binding.

L7 ANSWER 9 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Stereospecific fluorination of 1,3,5-tri-O-benzoyl-α-d-ribofuranose-2-sulfonate esters: preparation of a versatile intermediate

for synthesis of 2'-[18F]-fluoro-arabinonucleosides

L7 ANSWER 10 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Chemo-enzymatic synthesis of fluorinated sugar nucleotide: useful mechanistic Probes for glycosyltransferases

L7 ANSWER 11 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of deoxyfluoro sugars from carbohydrate precursors

L7 ANSWER 12 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Methods of synthesis of glycosyl fluorides

L7 ANSWER 13 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Preparation of heavily fluorinated sugar analogs

L7 ANSWER 14 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 4-O-methyl-protected 5-(2-hydroxyethyl)-2'-deoxyuridine derivatives and their nucleophilic fluorination to 5-(2-fluoroethyl)-2'-deoxyuridine

L7 ANSWER 15 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI UDP-6-deoxy-6-fluoro-α-D- galactose binds to two different galactosyltransferases, but neither can effectively catalyze transfer of the modified galactose to the appropriate acceptor

L7 ANSWER 16 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Understanding and exploiting glycosidases

L7 ANSWER 17 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI A Completely Diastereoselective Electrophilic Fluorination of a Chiral, Noncarbohydrate Sugar Ring Precursor: Application to the Synthesis of Several Novel 2'-Fluoronucleosides

L7 ANSWER 18 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI The carrier-free 18F-fluorination of proteins, peptides, and tyrosine

L7 ANSWER 19 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis and biological activity of sugar-fluorinated 2',3'-dideoxy-4'-thioribofuranosyl nucleosides

L7 ANSWER 20 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorination at C2', C3' and C5' of nucleosides with 1-chloromethyl-4-fluoro-1,4-diazabicyclo[2.2.2]octane bis(tetrafluoroborate) Selectfluor reagent

L7 ANSWER 21 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 3-substituted (azido, acylthio, chloro or fluoro)-2,3-dideoxy-D-erythro-pentoses and 3-methyl-3-substituted-2,3-dideoxy-D-erythro-pentoses

L7 ANSWER 22 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of a 2,3-dideoxy-2,3-difluorofuranose with the D-lyxo configuration. An intramolecular rearrangement of methyl 5-O-benzoyl-2,3-dideoxy-2,3-difluoro-D-lyxofuranoside observed during the attempted synthesis of 1-(2,3-dideoxy-2,3-difluoro-β-D-lyxofuranosyl)thymine

L7 ANSWER 23 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Stereoselective introduction of fluorine atom: synthesis of racemic carbocyclic analogs of 3'-deoxy-3'-fluororibofuranosides and 3'-deoxy-3'-fluoroarabinofuranosides

L7 ANSWER 24 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 2'-β-fluoro-substituted nucleosides by a

direct approach

L7 ANSWER 25 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of a potential inhibitor of UDP-glucuronosyltransferase

=> d l7 26-50 ti

L7 ANSWER 26 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of fluorine-18-labeled 2-deoxy-2[18F]fluoro-D-glucose and its precursors for human diagnostics

L7 ANSWER 27 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Stereoselective synthesis of glycosides and anomeric azides of glucosamine

L7 ANSWER 28 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Reactions with and in anhydrous hydrogen fluoride systems. Part 8. Triethylamine trishydrofluoride - a convenient reagent for the stereoselective synthesis of glycosyl fluorides

L7 ANSWER 29 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Nucleosides. 164. Studies directed toward the synthesis of 2'-deoxy-2'-substituted arabino nucleosides. 10. Synthesis of 2'-β-fluoro- and 3'-α-fluoro-substituted guanine nucleosides. Effect of sugar conformational shifts on nucleophilic displacement of the 2'-hydroxy and 3'-hydroxy group with DAST

L7 ANSWER 30 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Enantiomerically pure 7-oxabicyclo[2.2.1]hept-5-en-2-yl derivatives ("Naked sugars") as synthetic intermediates. Part XXII. Stereoselective synthesis of (1R)-1-C-(6-amino-7H-purin-8-yl)-1,4-anhydro-2,3-dideoxy-3-fluoro-D-erythro-pentitol

L7 ANSWER 31 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis and conformational analysis of 1,2-anhydro-3,4-di-O-benzyl-6-deoxy-α-D-glucopyranose

L7 ANSWER 32 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Syntheses of 2,6-dideoxy-6-fluoro-2-[(3R and 3S)-3-hydroxytetradecanamido]-3-O-[(3R)-3-(tetradecanoyloxy)-tetradecanoyl]-D-glucopyranose 4-(dihydrogen phosphate) and 2-deoxy-2-[(3R and 3S)-3-hydroxytetradecanamido]-3-O-[(3R)-3-(tetradecanoyloxy)tetradecanoyl]-α-D-glucopyranosyl fluoride 4-(dihydrogen phosphate): fluorosugar analogs of GLA-60

L7 ANSWER 33 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI A synthesis of 9-(2-deoxy-2-fluoro-β-D-arabinofuranosyl)adenine and -hypoxanthine. An effect of C3'-endo to C2'-endo conformational shift on the reaction course of 2'-hydroxyl group with DAST

L7 ANSWER 34 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis and testing of sugar phosphofluoridates and cyclic phosphates as inhibitors of phosphoglucomutase

L7 ANSWER 35 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 9-(2-deoxy-2-fluoro-β-D-arabinofuranosyl)hypoxanthine. The first direct introduction of a 2'-β-fluoro substituent in preformed purine nucleosides. Studies directed toward the synthesis of 2'-deoxy-2'-substituted arabinonucleosides. 8

L7 ANSWER 36 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN

TI Enzyme-catalyzed aldol condensation for asymmetric synthesis of azasugars: synthesis, evaluation, and modeling of glycosidase inhibitors

L7 ANSWER 37 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorinated sugar analogs of potential anti-HIV-1 nucleosides

L7 ANSWER 38 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Chemistry and developments of fluorinated carbohydrates

L7 ANSWER 39 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Base modified purine 2',3'-dideoxyribonucleoside 5'-triphosphates: selective inhibitors of HIV reverse transcriptase

L7 ANSWER 40 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of acyclonucleosides. (4). Synthesis of 3'-substituted secouridines

L7 ANSWER 41 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Diethylaminosulfur trifluoride (DAST) as a fluorinating agent of pyrimidine nucleosides having a 2',3'-vicinal diol system

L7 ANSWER 42 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorinated carbohydrates as potential plasma membrane modifiers. Synthesis of 4- and 6-fluoro derivatives of 2-acetamido-2-deoxy-D-hexopyranoses

L7 ANSWER 43 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Rapid production and trapping of [18F]fluorotrimethylsilane, and its use in nucleophilic fluorine-18 labeling without an aqueous evaporation step

L7 ANSWER 44 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI The synthesis and hydrolysis of a series of deoxy- and deoxyfluoro-α-D-glucopyranosyl phosphates

L7 ANSWER 45 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of nucleosides fluorinated in the sugar moiety. The application of diethylaminosulfur trifluoride to the synthesis of fluorinated nucleosides

L7 ANSWER 46 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI New synthetic methods emphasizing deoxyfluoro sugars and protective-group strategy

L7 ANSWER 47 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI 14-Fluoroanthracyclines. Novel syntheses and antitumor activity

L7 ANSWER 48 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 5-deoxyhexoses

L7 ANSWER 49 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Anthracyclines. XVII. The synthesis of 2-fluoro and 3-fluoro-4-demethoxydaunomycin

L7 ANSWER 50 OF 75 CAPLUS COPYRIGHT 2007 ACS on STN
TI Sugar fluorides as glycosylating agents. Synthesis of p-nitrophenyl, 4-methylumbelliferyl and 4-trifluoromethylumbelliferyl β-D-glucopyranosyluronides

=> s fluorination and (carbohydrate or saccharide)
16980 FLUORINATION
128653 CARBOHYDRATE
9787 SACCHARIDE
L8 53 FLUORINATION AND (CARBOHYDRATE OR SACCHARIDE)

```
=> s l8 not py>2002\
NUMERIC VALUE NOT VALID '2002\'
Numeric values may contain 1-8 significant figures.  If range notation
is used, both the beginning and the end of the range must be
specified, e.g., '250-300/MW'.  Expressions such as '250-/MW' are not
allowed.  To search for values above or below a given number, use the
>, =>, <, or <= operators, e.g., 'MW => 250'.  Text terms cannot be
used in numeric expressions.  If you specify a unit, it must be
dimensionally correct for that field code.  To see the unit
designations for field codes in the current file, enter "DISPLAY UNIT
ALL" at an arrow prompt (=>).

=> s l8 not py>2002
       4754028 PY>2002
L9           46 L8 NOT PY>2002

=> s l9 and synthesis
       1288087 SYNTHESIS
L10          29 L9 AND SYNTHESIS

=> d l10 1-29 ti

L10  ANSWER 1 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Synthesis of 5-Fluoro N-Acetylglucosamine Glycosides and
     Pyrophosphates via Epoxide Fluoridolysis: Versatile Reagents for the Study
     of Glycoconjugate Biochemistry

L10  ANSWER 2 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Synthesis of deoxyfluoro sugars from carbohydrate
     precursors

L10  ANSWER 3 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Electrophilic Fluorination-Nucleophilic Addition Reaction
     Mediated by Selectfluor: Mechanistic Studies and New Applications

L10  ANSWER 4 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Organofluoro compounds and fluorination agents. Part 23.
     HF-supported synthesis of orthoesters and oxazolines

L10  ANSWER 5 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Synthetic and immunological studies on clustered modes of mucin-related Tn
     and TF O-linked antigens: The preparation of a glycopeptide-based vaccine
     for clinical trials against prostate cancer

L10  ANSWER 6 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Synthetic studies on cell-surface glycans. Part 92. Synthesis of
     sulfated glucuronyl glycosphingolipids; carbohydrate epitopes of
     neural cell-adhesion molecules

L10  ANSWER 7 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Analogs of calicheamicin (gamma)1i, method of making and using the same

L10  ANSWER 8 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   All-α-D-linked tetra- and penta- saccharide substructures
     of Trestatin A by block syntheses with triflic anhydride as promoter

L10  ANSWER 9 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Reactions with and in anhydrous hydrogen fluoride systems. Part 8.
     Triethylamine trishydrofluoride - a convenient reagent for the
     stereoselective synthesis of glycosyl fluorides

L10  ANSWER 10 OF 29  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Synthesis of perfluorinated ethers by an improved solution phase
     direct fluorination process
```

L10 ANSWER 11 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthetic studies on cell-surface glycans. Part 80. Stereoselective total synthesis of glycopeptides bearing the dimeric and trimeric sialosyl-Tn epitope

L10 ANSWER 12 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Carbohydrate reactivity in hydrogen fluoride. 10. Hydrogen fluoride-mediated synthesis of 1-thiotrehaloses involving reaction of D-glucose with hydrogen sulfide

L10 ANSWER 13 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Syntheses of larger modified oligosaccharides containing opened carbohydrate fragments

L10 ANSWER 14 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Carbohydrates as chiral templates: stereoselective Strecker synthesis of D-α-amino nitriles and acids using O-pivaloylated D-galactosylamine as the auxiliary

L10 ANSWER 15 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Chemistry and developments of fluorinated carbohydrates

L10 ANSWER 16 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthetic studied on cell-surface glycans. Part 74. Total synthesis of a sulfated glucuronyl glycosphingolipid, IV3GlcA(3-SO3)nLcOse4Cer, a carbohydrate epitope of neural cell adhesion molecules

L10 ANSWER 17 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of fluorinated carbohydrates

L10 ANSWER 18 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Carbohydrate components for modified anthracyclines: synthesis of derivatives of 3-amino-3,4,6-trideoxy-L-lyxo- and -L-xylo-hexose, and attempts at fluorination of C-2 [Erratum to document cited in CA111(5):39749m]

L10 ANSWER 19 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of derivatives of 2,6-dideoxy-2,2-difluoro-3-O-methyl-L-arabinopyranose (2,2-difluorooleandrose)

L10 ANSWER 20 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of nucleosides fluorinated in the sugar moiety. The application of diethylaminosulfur trifluoride to the synthesis of fluorinated nucleosides

L10 ANSWER 21 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Carbohydrate components for modified anthracyclines: synthesis of derivatives of 3-amino-3,4,6-trideoxy-L-lyxo- and -L-xylo-hexose, and attempts at fluorination of C-2

L10 ANSWER 22 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI A practical and enantioselective synthesis of glycosphingolipids and related compounds. Total synthesis of globotriaosylceramide (Gb3)

L10 ANSWER 23 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Stereospecific 1,2-migrations in carbohydrates. Stereocontrolled synthesis of α- and β-2-deoxyglycosides

L10 ANSWER 24 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of fluorinated carbohydrates

L10 ANSWER 25 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN

TI Utility of tris(dimethylamino)sulfonium difluorotrimethylsilicate (TASF) for the rapid synthesis of deoxyfluoro sugars

L10 ANSWER 26 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI A rapid stereoselective synthesis of fluorinated carbohydrates

L10 ANSWER 27 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Carbohydrate synthesis for nuclear medicine: a new, rapid, and stereospecific route to 2-deoxy-2-fluoro-D-glucose

L10 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of gem-difluorosaccharides

L10 ANSWER 29 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of fluorinated carbohydrates

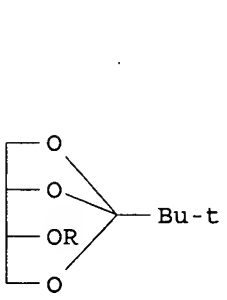
=> d l10 1 2 4 12 18 24 28 29 ti abs bib

L10 ANSWER 1 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of 5-Fluoro N-Acetylglucosamine Glycosides and Pyrophosphates via Epoxide Fluoridolysis: Versatile Reagents for the Study of Glycoconjugate Biochemistry
AB Numerous carbohydrate-processing enzymes facilitate catalysis via stabilization of pos. charges on or near the C-1, C-4, C-5, or C-6 positions. Substrate analogs differing only in the substitution of a fluorine for the axial C-5 hydrogen would possess reduced electron d. at these positions and could be useful mechanistic probes of these enzymes. Introduction of this 5-fluoro substituent after radical halogenation was problematic because of the incompatibility of many protecting groups to the radical halogenation and the instability of the subsequent 5-fluoro hexosamines. Thus, to allow easy access to a wide variety of 5-fluoro glycosides and glycosyl phosphates, a versatile method for the introduction of the 5-fluoro group has been developed, the key step being the fluoridolysis of C-5,6 epoxides. By use of this method, two fluorinated carbohydrates, uridine 5'-diphospho-5-fluoro-N-acetylglucosamine and octyl 5-fluoro-N-acetylglucosamine, have been synthesized. Initial biochem. investigations of these compds. show that 5-fluoro analogs are useful probes of transition-state charge development in several enzyme-catalyzed reactions.
AN 2002:565370 CAPLUS
DN 137:232849
TI Synthesis of 5-Fluoro N-Acetylglucosamine Glycosides and Pyrophosphates via Epoxide Fluoridolysis: Versatile Reagents for the Study of Glycoconjugate Biochemistry
AU Hartman, Matthew C. T.; Coward, James K.
CS Departments of Chemistry and Medicinal Chemistry, University of Michigan, Ann Arbor, MI, 48109-1055, USA
SO Journal of the American Chemical Society (2002), 124(34), 10036-10053
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 137:232849
RE.CNT 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

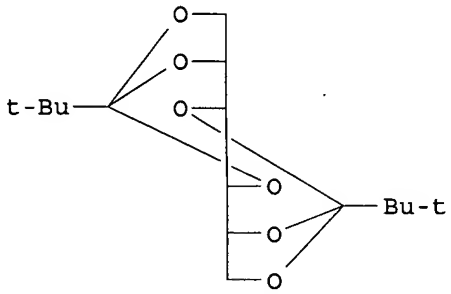
L10 ANSWER 2 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of deoxyfluoro sugars from carbohydrate precursors
AB A review with 80 refs. summarizing results obtained over the past decade concerning the introduction of the fluorine atom into carbohydrate mols., either by nucleophilic substitution or electrophilic addition reactions.
AN 2000:545876 CAPLUS

DN 133:238177
TI Synthesis of deoxyfluoro sugars from carbohydrate precursors
AU Dax, Karl; Albert, Martin; Ortner, Jorg; Paul, Bernhard J.
CS Institute of Organic Chemistry, Technical University of Graz, Graz, A-8010, Austria
SO Carbohydrate Research (2000), 327(1-2), 47-86
CODEN: CRBRAT; ISSN: 0008-6215
PB Elsevier Science Ltd.
DT Journal; General Review
LA English
RE.CNT 115 THERE ARE 115 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

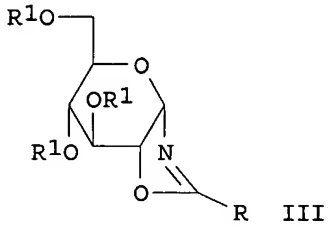
L10 ANSWER 4 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Organofluoro compounds and fluorination agents. Part 23. HF-supported synthesis of orthoesters and oxazolines
GI



I



II



III

AB A convenient method is reported to generate the ortho-pivalates I (R = Me3CCO) and II from meso-erythritol and D-mannitol, resp., using a HF-supported procedure. Furthermore, the α-D-glycopyrano[1,2-d]-2-oxazolines III (R = Me3C, R1 = Me3CCO; R = Ph, R1 = Ac) were prepared from starch and Me3CCN or PhCN by a Ritter-type reaction in anhydrous HF. The separation of the products was possible by quenching of their HF solns. with Et3N.
AN 1999:128930 CAPLUS
DN 130:209857
TI Organofluoro compounds and fluorination agents. Part 23. HF-supported synthesis of orthoesters and oxazolines
AU Klein, Holger; Miethchen, Ralf; Reinke, Helmut; Michalik, Manfred
CS Fachbereich Chemie, Univ. Rostock, Rostock, D-18051, Germany
SO Journal fuer Praktische Chemie (Weinheim, Germany) (1999), 341(1), 41-46
CODEN: JPCHF4; ISSN: 1436-9966
PB Wiley-VCH Verlag GmbH
DT Journal

LA German
OS CASREACT 130:209857
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 12 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Carbohydrate reactivity in hydrogen fluoride. 10. Hydrogen fluoride-mediated synthesis of 1-thiotrehaloses involving reaction of D-glucose with hydrogen sulfide
AB H2S reacted with D-glucose in HF solution to yield preponderantly α,α,1-thiotrehalose, β,β,1-thiothrehalose, and the α,β anomer. Conditions were found under which the thiotrehaloses were obtained in the resp. proportions of 8:5:5.
AN 1991:608384 CAPLUS
DN 115:208384
TI Carbohydrate reactivity in hydrogen fluoride. 10. Hydrogen fluoride-mediated synthesis of 1-thiotrehaloses involving reaction of D-glucose with hydrogen sulfide
AU Defaye, Jacques; Gadelle, Andree; Pedersen, Christian
CS Lab. Chim. Glucides, Cent. Etud. Nucl., Grenoble, F-38041, Fr.
SO Carbohydrate Research (1991), 217, 51-8
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English
OS CASREACT 115:208384

L10 ANSWER 18 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Carbohydrate components for modified anthracyclines: synthesis of derivatives of 3-amino-3,4,6-trideoxy-L-lyxo- and -L-xylo-hexose, and attempts at fluorination of C-2 [Erratum to document cited in CA111(5):39749m]
AB An error in the text has been corrected The error was not reflected in the abstract or the index entries.
AN 1989:554271 CAPLUS
DN 111:154271
TI Carbohydrate components for modified anthracyclines: synthesis of derivatives of 3-amino-3,4,6-trideoxy-L-lyxo- and -L-xylo-hexose, and attempts at fluorination of C-2 [Erratum to document cited in CA111(5):39749m]
AU Baer, Hans H.; Hernandez Mateo, Fernando
CS Ottawa-Carleton Inst. Res. Grad. Stud. Chem., Univ. Ottawa, Ottawa, ON, K1N 9B4, Can.
SO Carbohydrate Research (1989), 191(1), C1
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English

L10 ANSWER 24 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of fluorinated carbohydrates
AB A review with 91 refs. on (1) displacement of sulfonates by fluoride ion, (2) fluoride opening of epoxides and cyclic sulfates, (3) fluorination with DAST reagent, (4) addns. to glycals and other vinyl ethers, and (5) glycosyl fluorides (synthesis and reactions).
AN 1986:207524 CAPLUS
DN 104:207524
TI Synthesis of fluorinated carbohydrates
AU Card, Peter J.
CS Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, 19898, USA
SO Journal of Carbohydrate Chemistry (1985), 4(4), 451-87
CODEN: JCACDM; ISSN: 0732-8303
DT Journal; General Review
LA English

L10 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of gem-difluorosaccharides
AB Gem-difluorosaccharides were prepared (25-46%) by fluorination (Et2NSF3) of the carbonyl oxygen of isopropylidene protected sugars and glucosides. E.g. 1,2:3,4-di-O-isopropylidene-α-D-galacto-hexadialdo-1,5-pyranose with Et2NSF3 in CH2Cl2 (room temperature, 16 h) gave 46% 6-deoxy-6,6-difluoro-1,2:3,4-di-O-isopropylidene-α-D-galactopyranose. The method is general for sugar aldehydes and ketones in the pyranosyl form.
AN 1978:105663 CAPLUS
DN 88:105663
TI Synthesis of gem-difluorosaccharides
AU Sharma, R. A.; Kavai, I.; Fu, Y. L.; Bobek, M.
CS Dep. Exp. Ther., Roswell Park Mem. Inst., Buffalo, NY, USA
SO Tetrahedron Letters (1977), (39), 3433-6
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English

L10 ANSWER 29 OF 29 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of fluorinated carbohydrates
AB A review with 77 refs.
AN 1973:537399 CAPLUS
DN 79:137399
TI Synthesis of fluorinated carbohydrates
AU Foster, A. B.; Westwood, J. H.
CS Chester Beatty Res. Inst., London, UK
SO Pure and Applied Chemistry (1973), 35(3), 147-68
CODEN: PACHAS; ISSN: 0033-4545
DT Journal; General Review
LA English

=> d his

(FILE 'HOME' ENTERED AT 09:18:01 ON 04 JAN 2007)

FILE 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC, INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:07 ON 04 JAN 2007

INDEX 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC, INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:17 ON 04 JAN 2007

SEA FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O

4*	FILE AGRICOLA
0*	FILE ALUMINIUM
12	FILE ANABSTR
13*	FILE APOLLIT
1	FILE AQUALINE
0*	FILE AQUIRE
93*	FILE BABS
35	FILE BIOTECHNO
13	FILE CABA
2	FILE CAOLD
1249	FILE CAPLUS
17	FILE CBNB
5*	FILE CEABA-VTB
8	FILE CIN
83	FILE COMPENDEX

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                2*  FILE CONFSCI
                0*  FILE CORROSION
               65   FILE DISSABS
                5*  FILE ENCOMPLIT
               15   FILE INSPEC
                2*  FILE INSPHYS
                1*  FILE IPA
               87*  FILE JICST-EPLUS
                2   FILE KOSMET
               21   FILE NTIS
               45*  FILE PAPERCHEM2
              120   FILE PASCAL
              116*  FILE PROMT
               42   FILE RAPRA
               41   FILE RDISCLOSURE
              342   FILE SCISEARCH
                4   FILE TULSA
                1   FILE TULSA2
                3   FILE WATER
                1   FILE WELDASEARCH
               49   FILE WSCA
L1               QUE FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
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     FILE 'CAPLUS' ENTERED AT 09:20:30 ON 04 JAN 2007
L2           469 S FLUORINATION AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
L3           300 S L2 AND SYNTHE?
L4           265 S L3 NOT PY>2002
L5             5 S L4 AND SACCHARIDE
L6        257181 S SUGAR AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE OR RIBOS
L7            75 S L4 AND SUGAR
L8            53 S FLUORINATION AND (CARBOHYDRATE OR SACCHARIDE)
L9            46 S L8 NOT PY>2002
L10           29 S L9 AND SYNTHESIS

=> log hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   140.92     185.99

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STN INTERNATIONAL SESSION SUSPENDED AT 09:29:07 ON 04 JAN 2007
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PASSWORD:
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                                                      ENTRY    SESSION
FULL ESTIMATED COST                                  140.92     185.99

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -10.14     -10.14

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                  141.39     186.46

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -10.14     -10.14

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FILE COVERS 1907 - 4 Jan 2007  VOL 146 ISS 2
FILE LAST UPDATED: 3 Jan 2007  (20070103/ED)

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=> file registry
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    0.47     186.93

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00     -10.14
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STRUCTURE FILE UPDATES:     3 JAN 2007  HIGHEST RN 916687-76-8
DICTIONARY FILE UPDATES:    3 JAN 2007  HIGHEST RN 916687-76-8

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  Please note that search-term pricing does apply when
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REGISTRY includes numerically searchable data for experimental and
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experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> exp difluorobenzyl-diethylamine/cn
E1            1     DIFLUOROBENZOPHENONE-HYDROQUINONE COPOLYMER/CN
E2            1     DIFLUOROBENZOPHENONE-HYDROQUINONE COPOLYMER, SRU/CN
E3            0 --> DIFLUOROBENZYL-DIETHYLAMINE/CN
E4            1     DIFLUOROBIPHENYL/CN
E5            1     DIFLUOROBIS((-)-TRANS-1,2-CYCLOHEXANEDIAMINE)COBALT PERCHLOR
                    ATE/CN
E6            1     DIFLUOROBIS(B-PICOLINE)NICKEL/CN
E7            1     DIFLUOROBIS(H5-(TRIMETHYLSILYL)CYCLOPENTADIENYL)TITANIUM
                    /CN
E8            1     DIFLUOROBIS(H5-CYCLOPENTADIENYL)ZIRCONIUM/CN
E9            1     DIFLUOROBIS(H5-METHYLCYCLOPENTADIENYL)TITANIUM/CN
E10           1     DIFLUOROBIS(H5-PENTAMETHYLCYCLOPENTADIENYL)HAFNIUM/CN
E11           1     DIFLUOROBIS(H5-PENTAMETHYLCYCLOPENTADIENYL)TANTALUM(1+)
                    TETRAFLUOROBORATE/CN
E12           1     DIFLUOROBIS(H5-PENTAMETHYLCYCLOPENTADIENYL)TITANIUM/CN

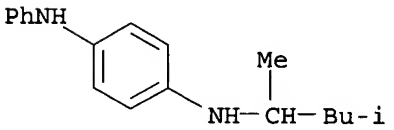
=> exp DBDA/cn
E1            1     DBD-MDMA/CN
E2            1     DBD-NCS/CN
E3            1 --> DBDA/CN
E4            1     DBDCB/CN
E5            1     DBDECMP/CN
E6            1     DBDG/CN
E7            1     DBDI/CN
E8            1     DBDP/CN
E9            1     DBDQ/CN
E10           1     DBDS/CN
E11           1     DBE/CN
E12           1     DBE 1/CN

=> sE3
SE3 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s E3
L11           1 DBDA/CN
```

=> d l11

L11 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2007 ACS on STN
RN 793-24-8 REGISTRY
ED Entered STN: 16 Nov 1984
CN 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN p-Phenylenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- (7CI, 8CI)
OTHER NAMES:
CN 6PPD
CN Accinox ZC
CN Antage 6C
CN Antioxidant 4020
CN Antioxidant CD 13
CN Antozite 67
CN Antozite 67F
CN CD 13
CN DBDA
CN Diafen 13
CN Diafen FDMB
CN DMBPD
CN Dusantox 6PPD
CN Flexzone 7F
CN Flexzone 7L
CN Flexzone 7P
CN Forte 6C
CN N-(1,3-Dimethylbutyl)-N'-phenyl-1,4-benzenediamine
CN N-(1,3-Dimethylbutyl)-N'-phenyl-1,4-phenylenediamine
CN N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine
CN N-(4-Methyl-2-pentyl)-N'-phenyl-p-phenylenediamine
CN N-Phenyl-N'-(1,3-dimethylbutyl)-1,4-phenylenediamine
CN N-Phenyl-N'-(1,3-dimethylbutyl)-p-phenylenediamine
CN Nocrac 6C
CN Ozonon 6C
CN Permanax 120
CN Permanax 6PPD
CN Pilflex 13
CN Santoflex 13
CN Santoflex 13F
CN Santoflex 6PPD
CN UOP 562
CN UOP 588
CN Vulkanox 4020
CN Vulkanox 4020LG
CN Wingstay 300
DR 50809-58-0, 76600-84-5
MF C18 H24 N2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, PIRA, PROMT, RTECS*, TOXCENTER, ULIDAT, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

          694 REFERENCES IN FILE CA (1907 TO DATE)
           13 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
          694 REFERENCES IN FILE CAPLUS (1907 TO DATE)
            3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     7.80     194.73

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                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00     -10.14

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FILE LAST UPDATED: 3 Jan 2007  (20070103/ED)

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=> s fluorination and microwave
         16980 FLUORINATION
        114727 MICROWAVE
L12        118 FLUORINATION AND MICROWAVE

=> s l12 not py>2002
       4754028 PY>2002
L13          73 L12 NOT PY>2002

=> s l13 and nucleoph?
          73533 NUCLEOPH?
L14           6 L13 AND NUCLEOPH?

=> d l14 1-6 ti

L14  ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Ortho-[18F]fluoronitrobenzenes by no-carrier-added nucleophilic
     aromatic substitution with K[18F]F-K222 - a comparative study

L14  ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   2-[18F]fluoropyridines by no-carrier-added nucleophilic aromatic
     substitution with [18F]FK-K222 - a comparative study
```

L14 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose

L14 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI NCA F-18 fluoroarylketones: useful bifunctional radiopharmaceutical intermediates

L14 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fast chemistry in microwave fields: nucleophilic 18F-radiofluorinations of aromatic molecules

L14 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI Application of microwave technology to the synthesis of short-lived radiopharmaceuticals

=> d l14 1-6 ti abs bib

L14 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI Ortho-[18F]fluoronitrobenzenes by no-carrier-added nucleophilic aromatic substitution with K[18F]F-K222 - a comparative study
AB The scope of the nucleophilic aromatic ortho-fluorinations from the corresponding ortho-halonitrobenzene precursors (halo-to-fluoro substitutions) with no-carrier-added [18F]fluoride ion as its activated K[18F]F-K222 complex was evaluated via the radiosynthesis of 1-(fluoro-18F)-2-nitrobenzene (I), chosen as a model reaction. The parameters studied include the influence of the leaving group in the ortho position of the Ph ring (chloro, bromo, iodo), the quantity of precursor used, the type of activation (conventional heating or microwave irradiation), the solvent, the temperature and the reaction time. The iodo-precursor was completely un-reactive and the bromo-precursor gave only low incorporation (< 10%) in the optimal conditions used (conventional heating at 145°C or microwave activation, 100 W for 120s). Only the 1-chloro-2-nitrobenzene was found reactive in the conditions described above and up to 70% yield was observed for the formation of I. In all the expts., the unwanted o-[18F]fluorohalobenzenes, potentially resulting from the nitro-to-fluoro substitution, could not be detected. These results will be applied for the radiosynthesis of 5-[18F]fluoro-6-nitroquipazine, a potent radioligand for the imaging of the serotonin transporter with PET.
AN 2002:968983 CAPLUS
DN 138:287323
TI Ortho-[18F]fluoronitrobenzenes by no-carrier-added nucleophilic aromatic substitution with K[18F]F-K222 - a comparative study
AU Karramkam, M.; Hinnen, F.; Bramoulle, Y.; Jubeau, S.; Dolle, F.
CS Service Hospitalier Frederic Joliot, Departement de Recherche Medicale, CEA/DSV, Orsay, F-91401, Fr.
SO Journal of Labelled Compounds & Radiopharmaceuticals (2002), 45(13), 1103-1113
CODEN: JLCRD4; ISSN: 0362-4803
PB John Wiley & Sons Ltd.
DT Journal
LA English
OS CASREACT 138:287323
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI 2-[18F]fluoropyridines by no-carrier-added nucleophilic aromatic substitution with [18F]FK-K222 - a comparative study
AB The scope of the nucleophilic aromatic substitution reaction of 2-substituted pyridines with no-carrier-added [18F]fluoride ion (half life: 110 min) as its [18F]FK-K222 activated complex, was evaluated via

the radiosynthesis of 2-[18F]fluoropyridine, chosen as a model reaction. The parameters studied include the influence of the leaving group in the 2 position of the pyridine ring, the quantity of the precursor used, the type of activation (conventional heating, micro- & ultrasonic wave irradiations), the solvent, the temperature and the duration of the reaction. Concerning the influence of the leaving group, 2-chloro- and 2-bromopyridine gave moderate to good fluorine-18 incorporation yields while 2-nitro- and especially 2-trimethylammonium pyridine gave excellent incorporation yields. Noteworthy, 2-iodopyridine was almost un-reactive. As expected, the incorporation yield increased with the quantity of precursor used: high yields were observed from about 7 μmol of precursor. Using conventional heating and regardless of the substituent in the 2 position of the pyridine ring, the best yields for the radiosynthesis of 2-[18F]fluoropyridine were obtained when the temperature of the reaction was 180°C and the solvent DMSO. The yields for the 2-nitro- and the 2-trimethylammonium pyridine precursors were 77% and 88% resp., after only 5 min of reaction and were similar to those observed at 150°C for longer reaction times. At 120°C, neither the 2-chloro- nor the 2-bromopyridine gave any incorporation. Using microwave irradiations, excellent incorporation yields (96%) were observed for the 2-trimethylammonium pyridine from 1 min of reaction at 100 W in DMSO. Concerning the 2-chloro-, 2-bromo- and 2-nitropyridine, the use of 100 W microwave irradiations for 2 min gave yields comparable to those obtained for 10 min of conventional heating at 180°C, 22%, 71% and 88% resp. No incorporation at all of the radioactivity could be detected when ultrasonic waves were applied, even with long reaction time and high power.

AN 1999:662215 CAPLUS
DN 132:49861
TI 2-[18F]fluoropyridines by no-carrier-added nucleophilic aromatic substitution with [18F]FK-K222 - a comparative study
AU Dolci, Lilian; Dolle, Frederic; Jubeau, Sebastien; Vaufrey, Francoise; Crouzel, Christian
CS Service Hospitalier Frederic Joliot - Departement de Recherche Medicale - CEA/DSV, Orsay, F-91401, Fr.
SO Journal of Labelled Compounds & Radiopharmaceuticals (1999), 42(10), 975-985
CODEN: JLCRD4; ISSN: 0362-4803
PB John Wiley & Sons Ltd.
DT Journal
LA English
OS CASREACT 132:49861
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose
AB The effect of potassium carbonate, potassium bicarbonate and potassium fluoride on the base-mediated decomposition of 1,3,4,6-tetra-O-acetyl-2-O-trifluoromethanesulfonyl-β-D-mannopyranose (I) during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose (2-18FDG) was investigated using 19F-NMR. It has been shown that the addition of KF, K2CO3 or KHCO3 to solns. of I in acetonitrile containing 2,2,2-crypt resulted in the elimination of trifluoromethane-sulfonate anion from I presumably by an E2 mechanism. It has also been shown that the substitution of triflate by [18F]fluoride in 90% complete in less than a minute when preparation of the dry [18F]fluoride and the subsequent nucleophilic fluorination is done using a domestic microwave oven. Using this modified method the average yield of 2-18FDG after 30 production runs was found to be very reproducible (47±4% at the end of synthesis).
AN 1995:469514 CAPLUS
DN 123:56399
TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose

AU Chirakal, Raman; Mccarry, Brian; Lonergan, Michael; Firnau, Gunter; Garnett, Stephen
CS Dep. Nuclear Medicine, Chedoke-McMaster Hospitals, Hamilton, ON, 48N 3Z5, Can.
SO Applied Radiation and Isotopes (1995), 46(3), 149-55
CODEN: ARISEF; ISSN: 0969-8043
PB Elsevier
DT Journal
LA English

L14 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI NCA F-18 fluoroarylketones: useful bifunctional radiopharmaceutical intermediates
AB A systematic study of parameters critical to the reproducible and high yield production of [18F]fluoroarylketones via the aromatic nucleophilic substitution reaction (SnAr) by NCA (no carrier added) [18F]F- using enolizable substrates was undertaken. This rational approach involved investigation of the following parameters: substrate, substrate concns., base, base concentration, and microwave irradiation time. Using this approach, optimal conditions for the production of 4-[18F]fluoroacetophenone (4-[18F]FAP) were found, as reproducible yields approaching 80% (corrected) were realized; however these or other conditions were not applicable for the production of the positional isomer 2-[18F]fluoroacetophenone. They were however, found to be applicable with the preparation of 4-[18F]fluoropropiophenone (4-[18F]FPP). To explore the potential use of the bifunctional nature of [18F]FAP, the productions of 1-bromo-4'-[18F]fluoroacetophenone ([18F]FAPBr), 1-(4'-[18F]fluorophenyl)ethanol, and Me 4-[18F]fluorophenyl acetate were investigated. Optimization of the bromination of [18F]FAP using a variety of reaction conditions was also investigated. Using the optimized reaction conditions, the desired monobrominated product was reproducibly obtained in radiochem. yields in excess of 80% (corrected). The latter two derivs., 1-(4'-[18F]fluorophenyl)ethanol and Me 4-[18F]fluorophenyl acetate were obtained in high yield and in rapid reaction times with no required optimization.
AN 1994:457064 CAPLUS
DN 121:57064
TI NCA F-18 fluoroarylketones: useful bifunctional radiopharmaceutical intermediates
AU Banks, William R.; Hwang, Dah Ren
CS Dep. Nucl. Med./PET, Kettering Mem. Hosp., Dayton, OH, 45429, USA
SO Applied Radiation and Isotopes (1994), 45(5), 599-608
CODEN: ARISEF; ISSN: 0883-2889
DT Journal
LA English
OS CASREACT 121:57064

L14 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fast chemistry in microwave fields: nucleophilic 18F-radiofluorinations of aromatic molecules
AB Nucleophilic aromatic radiofluorinations with [18F]fluoride in a microwave field were investigated in activated, partially deactivated, and deactivated aromatic compds. A coaxial resonance microwave cavity was used to produce a well-defined electromagnetic field in the samples. The leaving group on the aromatic rings as well as the ortho, meta and para orientation of electron-withdrawing and electron-donating substituents were varied. Yields comparable to or better than those reported for thermal treatments were obtained in very short reaction times (≤0.5 min, i.e. 1/20th-1/40th the thermal times) with very low microwave intensity and followed the trend of reactivity expected from the substrates activation for nucleophilic substitution. Thus, 2-O2NC6H4CN in Me2SO containing [18F]F-, Kryptofix 2.2.2, and K2CO3 was irradiated with microwaves for 0.5 min to give 74% 2-18FC6H4CN.
AN 1993:559820 CAPLUS

DN 119:159820
TI Fast chemistry in microwave fields: nucleophilic 18F-radiofluorinations of aromatic molecules
AU Stone-Elander, Sharon; Elander, Nils
CS Karolinska Pharm., Stockholm, 10401, Swed.
SO Applied Radiation and Isotopes (1993), 44(5), 889-93
CODEN: ARISEF; ISSN: 0883-2889
DT Journal
LA English
OS CASREACT 119:159820

L14 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
TI Application of microwave technology to the synthesis of short-lived radiopharmaceuticals
AB The use of conventional heating was compared with heating with microwave ovens in the synthesis of radiopharmaceuticals. Nucleophilic substitution reactions of activated nitrobenzenes with [18F]fluoride and isotopic exchange reactions of activated and deactivated halogenoarenes using [18F]fluoride and [131I]iodide were examined
AN 1988:62407 CAPLUS
DN 108:62407
TI Application of microwave technology to the synthesis of short-lived radiopharmaceuticals
AU Hwang, D. R.; Moerlein, S. M.; Lang, L.; Welch, M. J.
CS Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SO Journal of the Chemical Society, Chemical Communications (1987), (23), 1799-801
CODEN: JCCCAT; ISSN: 0022-4936
DT Journal
LA English

=> s l13 and hydroxyl
119314 HYDROXYL
L15 0 L13 AND HYDROXYL

=> s l13 and diol
76446 DIOL
L16 0 L13 AND DIOL

=> s l13 and epoxide
48185 EPOXIDE
L17 0 L13 AND EPOXIDE

=> d l13 1-20 ti

L13 ANSWER 1 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Preparation of boron-doped diamond and electrochemical fluorination using diamond electrodes

L13 ANSWER 2 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Ortho-[18F]fluoronitrobenzenes by no-carrier-added nucleophilic aromatic substitution with K[18F]F-K222 - a comparative study

L13 ANSWER 3 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of p-fluoronitrobenzene by halogen-exchange under microwave irradiation

L13 ANSWER 4 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave promoting halogen-exchange fluorination catalyzed by polyethylene glycol

L13 ANSWER 5 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Silica speciation and microwave-assisted method for

determination of iron and aluminum in diatom

L13 ANSWER 6 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Structure and conformation of α,α,α-trifluoroanisole, C6H5OCF3

L13 ANSWER 7 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Chemical bonding structure of fluorinated amorphous carbon films prepared by electron cyclotron resonance plasma chemical vapor deposition

L13 ANSWER 8 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Method and apparatus for microwave plasma sterilization and surface modification of glass bottles

L13 ANSWER 9 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Effect of a plasma treatment on water diffusivity and permeability of an unsaturated polyester resin

L13 ANSWER 10 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Removal of oxide film prepared under BWR condition by using atmospheric CF4/O2 plasma decontamination process

L13 ANSWER 11 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Surface kinetics of polyphenylene oxide etching in a CF4/O2/Ar downstream microwave plasma

L13 ANSWER 12 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Electrochemical fluorination by irradiating hydrofluoric acid with active energy rays

L13 ANSWER 13 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Surface modification by low-pressure glow discharge plasma of an unsaturated polyester resin: effect on water diffusivity and permeability

L13 ANSWER 14 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI 2-[18F]fluoropyridines by no-carrier-added nucleophilic aromatic substitution with [18F]FK-K222 - a comparative study

L13 ANSWER 15 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Silicon etching in NF3/O2 remote microwave plasmas

L13 ANSWER 16 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Etch kinetics of polyphenylene oxide laminates using a CF4/O2/Ar downstream microwave plasma

L13 ANSWER 17 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorination of 2-chloro-3-formylquinolines using microwaves

L13 ANSWER 18 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Plasma-supported surface modification of poly(ethylene terephthalate)

L13 ANSWER 19 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Surface modification of hexatriacontane by CF4 plasmas studied by optical emission and threshold ionization mass spectrometries

L13 ANSWER 20 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Manufacture of porous electrode substrates for phosphoric acid fuel cells with good phosphoric acid corrosion resistance

=> d l13 4 17 ti abs bib

L13 ANSWER 4 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave promoting halogen-exchange fluorination catalyzed by polyethylene glycol

AB Polyethylene glycols can be used as effective phase transfer catalyst in halogen-exchange fluorination. Thus, the reaction rate under microwave was about 3 times that with traditional heating in preparation of p-fluoronitrobenzene from p-chloronitrobenzene using PEG-6000 as phase transfer catalyst, and p-fluoronitrobenzene could be obtained in 91.6% yield. Similarly, yields of o-fluoronitrobenzene, 5-chloro-2-fluoronitrobenzene and 3-chloro-4-fluoronitrobenzene prepared from o-chloronitrobenzene,2,5-dichloronitrobenzene and 3,4-dichloronitrobenzene by halogen-exchange reaction under microwave were raised to 79.2%, 66.7% and 82.8% resp. and reaction rate enhancements were resp. as high as 6 times, 24 times and 52 times that with traditional heating. Exptl. results demonstrated that although the conversions of p-chloronitrobenzene were similar when using polyethylene glycol with different mol. weight, much different yields of p-fluoronitrobenzene were gotten, and the less the mol. weight of polyethylene glycol used, the lower the yield of p-fluoronitrobenzene.
AN 2002:881027 CAPLUS
DN 138:289299
TI Microwave promoting halogen-exchange fluorination catalyzed by polyethylene glycol
AU Luo, Jun; Cai, Chun; Lu, Chun-xu
CS School of Chemical Engineering, Nanjing University of Science & Technology, Nanjing, 210094, Peop. Rep. China
SO Jingxi Huagong (2002), 19(10), 593-595
CODEN: JIHUFJ; ISSN: 1003-5214
PB Jingxi Huagong Bianjibu
DT Journal
LA Chinese
OS CASREACT 138:289299

L13 ANSWER 17 OF 73 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorination of 2-chloro-3-formylquinolines using microwaves
AB Fluorination of 2-chloro-3-formylquinolines has been carried out in sulfolane, acetonitrile and acetamide using potassium fluoride and tetramethylammonium chloride with microwave irradiation as well as conventional heating. The reaction time has been brought down from hours to minutes with improved yields using microwave irradiation The rate of fluorination of 2-chloro-3-formylquinoline is highest in acetamide, followed by acetonitrile.
AN 1999:269410 CAPLUS
DN 130:352180
TI Fluorination of 2-chloro-3-formylquinolines using microwaves
AU Kidwai, Mazaahir; Sapra, Pooja; Bhushan, Kumar Ranjan
CS Department of Chemistry, University of Delhi, Delhi, 110007, India
SO Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1999), 38B(1), 114-115
CODEN: IJSBDB; ISSN: 0376-4699
PB National Institute of Science Communication, CSIR
DT Journal
LA English
OS CASREACT 130:352180
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
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CA SUBSCRIBER PRICE	-6.24	-16.38

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                                                      ENTRY    SESSION
FULL ESTIMATED COST                                   48.37     243.10

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -6.24     -16.38

=> s deoxyfluorination
L18         15 DEOXYFLUORINATION

=> s l18 and microwave
        114727 MICROWAVE
L19          3 L18 AND MICROWAVE

=> d l19 1-3 ti bas bib
'BAS' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS --------- GI and AB
ALL --------- BIB, AB, IND, RE
APPS -------- AI, PRAI
BIB --------- AN, plus Bibliographic Data and PI table (default)
CAN --------- List of CA abstract numbers without answer numbers
CBIB -------- AN, plus Compressed Bibliographic Data
CLASS ------- IPC, NCL, ECLA, FTERM
DALL -------- ALL, delimited (end of each field identified)
DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
              e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, CLASS

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels
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SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT) containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and its structure diagram
HITSEQ ------ HIT RN, its text modification, its CA index name, its structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its structure diagram, plus NTE and SEQ fields
KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

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ENTER DISPLAY FORMAT (BIB):ti abs bib

L19 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
TI Direct conversion of epoxides to vic-difluorides
AB Vic-Difluoro compds. can be directly prepared from epoxides by reaction with Et3N-3HF and DFMBA under microwave-irradiation conditions.
AN 2005:568391 CAPLUS
DN 144:369634
TI Direct conversion of epoxides to vic-difluorides
AU Yu, Hong-Wen; Nakano, Yousuke; Fukuhara, Tsuyoshi; Hara, Shoji
CS Division of Molecular Chemistry, Graduate School of Engineering, Hokkaido University, Sapporo, 060-8628, Japan
SO Journal of Fluorine Chemistry (2005), 126(6), 962-966
CODEN: JFLCAR; ISSN: 0022-1139
PB Elsevier B.V.
DT Journal
LA English
OS CASREACT 144:369634
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
TI Deoxyfluorination of alcohols using N,N-diethyl-α,α-difluoro-(m-methylbenzyl)amine
AB Deoxyfluorination of alcs. was carried out using N,N-diethyl-α,α-difluoro-(m-methylbenzyl)amine (DFMBA). Primary alcs. were effectively converted to fluorides under microwave irradiation or conventional heating. Deoxyfluorination of an anomeric hydroxy group in sugars by DFMBA proceeded at below room temperature and glycosyl fluorides could be obtained in good yields. The deoxyfluorination reaction chemoselectively proceeded and various protecting groups on the sugar can survive under the reaction conditions.
AN 2004:581849 CAPLUS
DN 141:260951
TI Deoxyfluorination of alcohols using N,N-diethyl-α,α-

difluoro-(m-methylbenzyl)amine
AU Kobayashi, Shingo; Yoneda, Atushi; Fukuhara, Tsuyoshi; Hara, Shoji
CS Division of Molecular Chemistry, Graduate School of Engineering, Hokkaido University, Sapporo, 060-8628, Japan
SO Tetrahedron (2004), 60(32), 6923-6930
CODEN: TETRAB; ISSN: 0040-4020
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 141:260951
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
TI Selective synthesis of fluorinated carbohydrates using N,N-diethyl-α,α-difluoro-(m-methylbenzyl)amine
AB Deoxyfluorination of a hydroxy group in carbohydrates was carried out using N,N-diethyl-α,α-difluoro-(m-methylbenzyl)amine. A primary hydroxy group in carbohydrates was effectively converted to the corresponding fluoride under microwave irradiation or at 100 °C. Deoxyfluorination of hydroxy groups at the anomeric position proceeded at below room temperature, and glycosyl fluorides could be obtained in good yields. The reaction chemoselectively proceeded, and various protecting groups of carbohydrates can survive under the reaction conditions.
AN 2004:51764 CAPLUS
DN 140:271079
TI Selective synthesis of fluorinated carbohydrates using N,N-diethyl-α,α-difluoro-(m-methylbenzyl)amine
AU Kobayashi, Shingo; Yoneda, Atushi; Fukuhara, Tsuyoshi; Hara, Shoji
CS Graduate School of Engineering, Division of Molecular Chemistry, Hokkaido University, Sapporo, 060-8628, Japan
SO Tetrahedron Letters (2004), 45(6), 1287-1289
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 140:271079
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s fluorination and microwave and nucleophilic
16980 FLUORINATION
114727 MICROWAVE
53408 NUCLEOPHILIC
L20 15 FLUORINATION AND MICROWAVE AND NUCLEOPHILIC

=> d l20 1-15 ti

L20 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Rapid microwave-assisted fluorination yielding novel 5'-deoxy-5'-fluorouridine derivatives

L20 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Preparation of 18F labeled amino acid O-(2-[18F]fluoroethyl)-L-tyrosine using indirect and direct labeling methods

L20 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Process for preparation of O-(2-[18F]fluoroethyl)-L-tyrosine

L20 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave-enhanced nucleophilic fluorination in the synthesis of fluoropyridyl derivatives of [3,2-c]pyrazolo-corticosteroids, potential glucocorticoid receptor-mediated imaging agents

L20 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorine-18-labelled fluoropyridines: Advances in radiopharmaceutical design

L20 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave-enhanced nucleophilic fluorination in the synthesis of fluoropyridyl derivatives of [3,2-c]pyrazolo-corticosteroids

L20 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Rapid and reproducible radiosynthesis of [18F] FHBG

L20 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of a [6-pyridinyl-18F]-labelled fluoro derivative of WAY-100635 as a candidate radioligand for brain 5-HT1A receptor imaging with PET

L20 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Ortho-[18F]fluoronitrobenzenes by no-carrier-added nucleophilic aromatic substitution with K[18F]F-K222 - a comparative study

L20 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Use of nitriles as polar aprotic solvents, e.g., for nucleophilic aromatic substitution

L20 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI 2-[18F]fluoropyridines by no-carrier-added nucleophilic aromatic substitution with [18F]FK-K222 - a comparative study

L20 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose

L20 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI NCA F-18 fluoroarylketones: useful bifunctional radiopharmaceutical intermediates

L20 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fast chemistry in microwave fields: nucleophilic 18F-radiofluorinations of aromatic molecules

L20 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Application of microwave technology to the synthesis of short-lived radiopharmaceuticals

=> d l20 1 4 5 6 12 ti abs bib

L20 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Rapid microwave-assisted fluorination yielding novel 5'-deoxy-5'-fluorouridine derivatives
AB The preparation of 18F-labeled ligands for positron emission tomog. (PET) and the subsequent imaging have to be completed within a half-life of the neutron-deficient isotope (18F = 110 min). In this paper, we report a rapid fluorination approach to obtain 5'-deoxy-5'-fluoro-substituted uracil nucleoside analogs. Nucleophilic substitution at the 5'-position of the nucleosides was achieved within 45 min providing excellent yields of 75-92% by application of microwaves.
AN 2006:1190101 CAPLUS
TI Rapid microwave-assisted fluorination yielding novel 5'-deoxy-5'-fluorouridine derivatives
AU Le, H. Phuoc; Mueller, Christa E.
CS Pharmaceutical Sciences Bonn (PSB), Pharmaceutical Chemistry, Institute of Pharmacy, University of Bonn, Bonn, 53115, Germany
SO Bioorganic & Medicinal Chemistry Letters (2006), 16(23), 6139-6142

CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Ltd.
DT Journal
LA English
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave-enhanced nucleophilic fluorination in the synthesis of fluoropyridyl derivatives of [3,2-c]pyrazolo-corticosteroids, potential glucocorticoid receptor-mediated imaging agents
AB Fluoropyridyl derivs. of [3,2-c]pyrazolo-corticosteroids have high affinity for the glucocorticoid receptor (GR) and are highly active glucocorticoids. They are thus considered to be excellent candidates for PET imaging of GR containing tissues when labeled with fluorine-18 (t1/2 = 110 min). Previously reported syntheses of these fluorinated glucocorticoids were accomplished by conventional thermal nucleophilic halogen exchange reactions with chloropyridyl precursors. These reactions were found to proceed at rates too slow for feasible application to radiosynthesis using [18F]fluoride. We have applied microwave -heating methods to these reactions and found that significant rate enhancements can be realized. Kinetic expts. showed an average relative rate ratio of 3/1 for microwave vs. conventional heating and preparative expts. showed an average relative conversion ratio of 4.5/1 during the initial 120 min, a period approximating one half-life of the isotope. The microwave method described was used to prepare previously unreported 2'-(2-fluoro-4-pyridyl)-11β,17,21-trihydroxy-16α-methyl-20-oxo-pregn-4-eno-[3,2-c]-pyrazole, which was evaluated for biol. activity.
AN 2006:499095 CAPLUS
DN 145:167456
TI Microwave-enhanced nucleophilic fluorination in the synthesis of fluoropyridyl derivatives of [3,2-c]pyrazolo-corticosteroids, potential glucocorticoid receptor-mediated imaging agents
AU Kahn, Michael G. C.; Konde, Emmanuel; Dossou, Francis; Labaree, David C.; Hochberg, Richard B.; Hoyte, Robert M.
CS Department of Chemistry, State University of New York, Old Westbury, NY, 11568, USA
SO Bioorganic & Medicinal Chemistry Letters (2006), 16(13), 3454-3458
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier B.V.
DT Journal
LA English
OS CASREACT 145:167456
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorine-18-labelled fluoropyridines: Advances in radiopharmaceutical design
AB A review. Positron Emission Tomog. is a high-resolution, sensitive, functional imaging technique, which can efficiently give access to the distribution, pharmacokinetics and -dynamics of a drug in vivo and which can therefore advantageously play a key-role in both drug discovery and development. This mol. imaging technique requires the preparation of a positron-emitting radiolabeled probe or radiotracer and for this purpose, fluorine-18 is becoming, more and more often, the radionuclide of choice (adequate phys. and nuclear characteristics and potential wide use and -distribution of fluorine-18-labeled radiopharmaceuticals). Considering chemical structures showing a fluoropyridinyl moiety, nucleophilic heteroarom. substitution at the ortho-position with no-carrier-added [18F]fluoride appears today as the most efficient method for the radiosynthesis of radiotracers and radiopharmaceuticals of high specific radioactivity when compared to homoarom.-, but also aliphatic, nucleophilic radiofluorination. Like for the aliphatic

nucleophilic radiofluorinations, only a good leaving group is required (a halogen, or better a nitro- or a trimethylammonium group). There is no need for an addnl. strong electron-withdrawing substituent for activation of the aromatic ring such as in the homoarom. nucleophilic radiofluorinations, except if one considers meta-fluorination. Nucleophilic heteroarom. substitution and consequent fluorine-18 incorporation are generally performed in DMSO with the no-carrier-added, activated K[18F]F-K222 complex using conventional heating at a moderately high temperature (120-150°C) or microwave irradiation (100 W) for a short period of time (1-2 min) and often lead to high radiochem. yields. This review summarizes some of the recent applications of these nucleophilic heteroarom. substitutions in the pyridine series and highlights its potential in the design (not seldom by hydrogen, hydroxyl or halogen replacement by fluorine) and preparation, of often drug-based, fluorine-18-labeled radiotracers and radiopharmaceuticals of high specific radioactivity for PET imaging.

AN 2005:1018162 CAPLUS
DN 143:262521
TI Fluorine-18-labelled fluoropyridines: Advances in radiopharmaceutical design
AU Dolle, F.
CS Service Hospitalier Frederic Joliot, Departement de Recherche Medicale, CEA, Orsay, F-91401, Fr.
SO Current Pharmaceutical Design (2005), 11(25), 3221-3235
CODEN: CPDEFP; ISSN: 1381-6128
PB Bentham Science Publishers Ltd.
DT Journal; General Review
LA English
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave-enhanced nucleophilic fluorination in the synthesis of fluoropyridyl derivatives of [3,2-c]pyrazolo-corticosteroids
AB Fluoropyridyl derivs. of 1;3,2-c3;pyrazolo-corticosteroids prepared by conventional thermal nucleophilic halogen exchange reactions with chloropyridyl precursors have been shown to have high affinity for the glucocorticoid receptor (GR) and to be highly active glucocorticoids. These fluorinated glucocorticoids are thus considered to be excellent candidates for imaging of GR containing tissues when labeled with fluorine-18. However, the conventionally heated halogen exchange reactions were found to proceed at rates too slow for feasible applications in radiosynthesis. We have applied microwave-heating methods to these reactions and found that significant rate enhancements can be realized. This results in significantly higher conversion to fluorinated products within the first hour of reaction, which is important to radiolabeling with short-lived isotopes. Thus, there is improved potential for application of halogen exchange reactions to the synthesis of fluorine-18 labeled glucocorticoids. The results of our kinetic investigation of these microwave-enhanced reactions will be presented and their potential application to the synthesis of GR based imaging agents will be discussed.
AN 2005:739967 CAPLUS
TI Microwave-enhanced nucleophilic fluorination in the synthesis of fluoropyridyl derivatives of [3,2-c]pyrazolo-corticosteroids
AU Kahn, Michael G. C.; Konde, Emmanuel; Dossou, Francis; Hoyte, Robert M.
CS Department of Chemistry, SUNY College at Old Westbury, Old Westbury, NY, 11568, USA
SO Abstracts of Papers, 230th ACS National Meeting, Washington, DC, United States, Aug. 28-Sept. 1, 2005 (2005), MEDI-459 Publisher: American Chemical Society, Washington, D. C.
CODEN: 69HFCL
DT Conference; Meeting Abstract; (computer optical disk)
LA English

L20 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose
AB The effect of potassium carbonate, potassium bicarbonate and potassium fluoride on the base-mediated decomposition of 1,3,4,6-tetra-O-acetyl-2-O-trifluoromethanesulfonyl-β-D-mannopyranose (I) during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose (2-18FDG) was investigated using 19F-NMR. It has been shown that the addition of KF, K2CO3 or KHCO3 to solns. of I in acetonitrile containing 2,2,2-crypt resulted in the elimination of trifluoromethane-sulfonate anion from I presumably by an E2 mechanism. It has also been shown that the substitution of triflate by [18F]fluoride in 90% complete in less than a minute when preparation of the dry [18F]fluoride and the subsequent nucleophilic fluorination is done using a domestic microwave oven. Using this modified method the average yield of 2-18FDG after 30 production runs was found to be very reproducible (47±4% at the end of synthesis).
AN 1995:469514 CAPLUS
DN 123:56399
TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose
AU Chirakal, Raman; Mccarry, Brian; Lonergan, Michael; Firnau, Gunter; Garnett, Stephen
CS Dep. Nuclear Medicine, Chedoke-McMaster Hospitals, Hamilton, ON, 48N 3Z5, Can.
SO Applied Radiation and Isotopes (1995), 46(3), 149-55
CODEN: ARISEF; ISSN: 0969-8043
PB Elsevier
DT Journal
LA English

=> s fluorination and microwave
16980 FLUORINATION
114727 MICROWAVE
L21 118 FLUORINATION AND MICROWAVE

=> s l21 not aromatic
233588 AROMATIC
L22 112 L21 NOT AROMATIC

=> s l22 not py>2002
4754028 PY>2002
L23 69 L22 NOT PY>2002

=> s l23 and (carbohydrate or saccharide or ribos? or arabinos?)
128653 CARBOHYDRATE
9787 SACCHARIDE
115770 RIBOS?
27844 ARABINOS?
L24 0 L23 AND (CARBOHYDRATE OR SACCHARIDE OR RIBOS? OR ARABINOS?)

=> s l32 and Sn2
L32 NOT FOUND
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=> s l23 and Sn2
10588 SN2
L25 0 L23 AND SN2

=> s l23 and displacement
107123 DISPLACEMENT
L26 0 L23 AND DISPLACEMENT

=> d l23 1-69 ti

L23 ANSWER 1 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Preparation of boron-doped diamond and electrochemical fluorination using diamond electrodes

L23 ANSWER 2 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Synthesis of p-fluoronitrobenzene by halogen-exchange under microwave irradiation

L23 ANSWER 3 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave promoting halogen-exchange fluorination catalyzed by polyethylene glycol

L23 ANSWER 4 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Silica speciation and microwave-assisted method for determination of iron and aluminum in diatom

L23 ANSWER 5 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Structure and conformation of α,α,α-trifluoroanisole, C6H5OCF3

L23 ANSWER 6 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Chemical bonding structure of fluorinated amorphous carbon films prepared by electron cyclotron resonance plasma chemical vapor deposition

L23 ANSWER 7 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Method and apparatus for microwave plasma sterilization and surface modification of glass bottles

L23 ANSWER 8 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Effect of a plasma treatment on water diffusivity and permeability of an unsaturated polyester resin

L23 ANSWER 9 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Removal of oxide film prepared under BWR condition by using atmospheric CF4/O2 plasma decontamination process

L23 ANSWER 10 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Surface kinetics of polyphenylene oxide etching in a CF4/O2/Ar downstream microwave plasma

L23 ANSWER 11 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Electrochemical fluorination by irradiating hydrofluoric acid with active energy rays

L23 ANSWER 12 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Surface modification by low-pressure glow discharge plasma of an unsaturated polyester resin: effect on water diffusivity and permeability

L23 ANSWER 13 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Silicon etching in NF3/O2 remote microwave plasmas

L23 ANSWER 14 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Etch kinetics of polyphenylene oxide laminates using a CF4/O2/Ar downstream microwave plasma

L23 ANSWER 15 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorination of 2-chloro-3-formylquinolines using microwaves

L23 ANSWER 16 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Plasma-supported surface modification of poly(ethylene terephthalate)

L23 ANSWER 17 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Surface modification of hexatriacontane by CF4 plasmas studied by optical

emission and threshold ionization mass spectrometries

L23 ANSWER 18 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Manufacture of porous electrode substrates for phosphoric acid fuel cells with good phosphoric acid corrosion resistance

L23 ANSWER 19 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Role of intersystem crossing in the reactive scattering of O(3P) atoms with CF3CH2I molecules

L23 ANSWER 20 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorination of spent nuclear fuel

L23 ANSWER 21 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Cathodoluminescence measurement of CVD diamond surface

L23 ANSWER 22 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Evidence for superconductivity in fluorinated La2CuO4 at 35 K: Microwave investigations

L23 ANSWER 23 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave absorption and EPR studies of a new copper oxyfluoride superconductor synthesized through the ammonium bifluoride route

L23 ANSWER 24 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose

L23 ANSWER 25 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Ab Initio Study on the Structural Properties of Hexafluorocyclobutene, 3,3,4,4-Tetrafluorocyclobutene, and Cyclobutene: The Remarkable Length of the C(3)-C(4) Bond

L23 ANSWER 26 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Improvements on electrical properties of ultra-thin silicon oxides grown by microwave afterglow oxygen plasma

L23 ANSWER 27 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fundamental electrical properties of fluorinated and N2O plasma-annealed ultrathin silicon oxides grown by microwave plasma afterglow oxidation at low temperatures

L23 ANSWER 28 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI NCA F-18 fluoroarylketones: useful bifunctional radiopharmaceutical intermediates

L23 ANSWER 29 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Study of polymer treatment with tetrafluoromethane plasma: reactivity of fluorinated species on model surfaces

L23 ANSWER 30 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Diffuse reflectance Fourier-transform infrared study of the plasma-fluorination of diamond surfaces using a microwave discharge in tetrafluoromethane

L23 ANSWER 31 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Organophosphorus compounds with tertiary alkyl substituents. II. Synthesis and characterization of triphenylmethyl-substituted λ4P(V) compounds; crystal structure of triphenylmethylphosphonic difluoride

L23 ANSWER 32 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI ESR study of lanthanum cuprate (La2CuO4)-derived superconductors treated under halogen gas

L23 ANSWER 33 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN

TI Fourier transform infrared studies of polyimide and poly(methyl methacrylate) surfaces during downstream microwave plasma etching

L23 ANSWER 34 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave cavities: some parameters affecting their use in radiolabeling reactions

L23 ANSWER 35 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI An unusual relationship between the nitrogen-fluorine bond lengths and force constants in N-fluoroamines

L23 ANSWER 36 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Influence of preform surface treatments on the strength of fluorozirconate fibers

L23 ANSWER 37 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Manufacture of microwave-oven trays which show no migration of low-molecular-weight components

L23 ANSWER 38 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Prevention of migration of low molecular weight components from plastic trays for oily foods cookable by microwave ovens

L23 ANSWER 39 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI FTIR investigations of plasma-modified polymer surfaces and their interfaces with plasma deposited tungsten

L23 ANSWER 40 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Structural effects in fluorinated cyclopropanes: a microwave study of cis-1,1,2,3-tetrafluorocyclopropane

L23 ANSWER 41 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Cold plasma-induced polymerization. Plasma-polymer interactions and surface and bulk characterization of the chemical structure of the material

L23 ANSWER 42 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI In situ FTIR investigations of polymer surface modification in downstream microwave plasma etching

L23 ANSWER 43 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI ESR spectra of high Tc superconducting oxides treated under various atmospheres

L23 ANSWER 44 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Boron-11-quadrupole hyperfine structure in the rotational spectrum of phenyldifluoroborane

L23 ANSWER 45 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI The doubly determined substitution structure of 1,2-difluorobenzene

L23 ANSWER 46 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Study of aluminum, gallium, and indium chelate ligand exchange by gas chromatography-microwave-induced plasma atomic emission spectrometry

L23 ANSWER 47 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI The doubly determined substitution structure of 1,3-difluorobenzene

L23 ANSWER 48 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Superconductivity in the fluorinated yttrium barium copper oxide

L23 ANSWER 49 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Surface composition and distribution of fluorine in plasma-fluorinated

polyimide

L23 ANSWER 50 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Application of microwave technology to the synthesis of short-lived radiopharmaceuticals

L23 ANSWER 51 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Plasma-assisted removal of surface hydroxide from sodium fluoride

L23 ANSWER 52 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI X-ray photoelectron and infrared spectroscopy of microwave plasma etched polyimide surfaces

L23 ANSWER 53 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI The surface fluorination of graphite by electric discharge

L23 ANSWER 54 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Mechanism of microwave plasma etching of polyimides in oxygen and tetrafluoromethane gas mixtures

L23 ANSWER 55 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Reactions of atomic and molecular fluorine on silicon surfaces

L23 ANSWER 56 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI The (p-d) π bonding in fluorosilanes? Gas-phase structures of (CH3)4-nSiFn with n = 1-3 and of (tert-Bu)2SiF2

L23 ANSWER 57 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI The reaction between dissociated fluorine and oxides of uranium

L23 ANSWER 58 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI A synthesis of 2-deoxy-2[18F]fluoro-D-glucose using accelerator-produced 18F-fluoride ion generated in a water target

L23 ANSWER 59 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Tritium labeling of potential lipophilic myelin probes

L23 ANSWER 60 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Reaction of fluorine atoms with nitromethane. Vibrational spectra of the addition complex and of the nitromethyl free radical

L23 ANSWER 61 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI The fluorination of the surface of elemental carbon. II. Deposition and stability of fluorine-containing species: x-ray photoelectron spectroscopic studies of fluorinated graphite

L23 ANSWER 62 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI High temperature kinetics of refractory metal gasification by atomic fluorine

L23 ANSWER 63 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Low resolution microwave spectroscopy and the conformational analysis of 4,4-difluoropiperidine

L23 ANSWER 64 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI The fluorination of the surfaces of elemental carbon. I. X-ray photoelectron spectroscopic studies of fluorinated graphite

L23 ANSWER 65 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Identification of functional groups on the surface of a fluorinated diamond crystal by photoelectron spectroscopy

L23 ANSWER 66 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Kinetics of the attack of refractory solids by atomic and molecular fluorine

L23 ANSWER 67 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Kinetic studies of the attack of refractory materials by fluorine atoms

L23 ANSWER 68 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Electron diffraction investigation of hexafluoroacetone, hexafluoropropylimine, and hexafluoroisobutene

L23 ANSWER 69 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Microwave spectrum, structure, dipole moment, and internal rotation of trimethylsilane

=> d l23 11 15 24 40 49 50 ti abs bib

L23 ANSWER 11 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Electrochemical fluorination by irradiating hydrofluoric acid with active energy rays
AB An electrochem. fluorination system composed of an electrochem. medium (I) (containing inorg. fluoride such as hydrofluoric acid) and electrodes (II), (I) and/or (II) is irradiated with active energy rays (such as microwave, far IR rays, IR rays, visible rays, UV rays, etc.). The yield of F compds. is high, formation of byproducts is little, and the consumption of an expensive anode such as Ni and Pt is small.
AN 2000:43620 CAPLUS
DN 132:70683
TI Electrochemical fluorination by irradiating hydrofluoric acid with active energy rays
IN Yumoto, Kimiyasu
PA Dainippon Ink and Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000017473	A	20000118	JP 1998-180419	19980626
PRAI	JP 1998-180419		19980626		

L23 ANSWER 15 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Fluorination of 2-chloro-3-formylquinolines using microwaves
AB Fluorination of 2-chloro-3-formylquinolines has been carried out in sulfolane, acetonitrile and acetamide using potassium fluoride and tetramethylammonium chloride with microwave irradiation as well as conventional heating. The reaction time has been brought down from hours to minutes with improved yields using microwave irradiation The rate of fluorination of 2-chloro-3-formylquinoline is highest in acetamide, followed by acetonitrile.
AN 1999:269410 CAPLUS
DN 130:352180
TI Fluorination of 2-chloro-3-formylquinolines using microwaves
AU Kidwai, Mazaahir; Sapra, Pooja; Bhushan, Kumar Ranjan
CS Department of Chemistry, University of Delhi, Delhi, 110007, India
SO Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1999), 38B(1), 114-115
CODEN: IJSBDB; ISSN: 0376-4699
PB National Institute of Science Communication, CSIR
DT Journal
LA English
OS CASREACT 130:352180
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 24 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN

TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose

AB The effect of potassium carbonate, potassium bicarbonate and potassium fluoride on the base-mediated decomposition of 1,3,4,6-tetra-O-acetyl-2-O-trifluoromethanesulfonyl-β-D-mannopyranose (I) during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose (2-18FDG) was investigated using 19F-NMR. It has been shown that the addition of KF, K2CO3 or KHCO3 to solns. of I in acetonitrile containing 2,2,2-crypt resulted in the elimination of trifluoromethane-sulfonate anion from I presumably by an E2 mechanism. It has also been shown that the substitution of triflate by [18F]fluoride in 90% complete in less than a minute when preparation of the dry [18F]fluoride and the subsequent nucleophilic fluorination is done using a domestic microwave oven. Using this modified method the average yield of 2-18FDG after 30 production runs was found to be very reproducible (47±4% at the end of synthesis).

AN 1995:469514 CAPLUS

DN 123:56399

TI Base-mediated decomposition of a mannose triflate during the synthesis of 2-deoxy-2-18F-fluoro-D-glucose

AU Chirakal, Raman; Mccarry, Brian; Lonergan, Michael; Firnau, Gunter; Garnett, Stephen

CS Dep. Nuclear Medicine, Chedoke-McMaster Hospitals, Hamilton, ON, 48N 3Z5, Can.

SO Applied Radiation and Isotopes (1995), 46(3), 149-55
CODEN: ARISEF; ISSN: 0969-8043

PB Elsevier

DT Journal

LA English

L23 ANSWER 40 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN

TI Structural effects in fluorinated cyclopropanes: a microwave study of cis-1,1,2,3-tetrafluorocyclopropane

AB Microwave and RFMDR spectra of cis-CHFCHFCH2, cis-13CHFCHFCF2, cis-CDFCDFCF2, and cis-13CDFCDFCF2 was measured between 26.5 and 40.0 GHz using an HP 8400C spectrometer. The a- and c-type transitions were assigned and fit to the quartic Watson Hamiltonian giving A = 3450.445(2) MHz, B = 2402.831(3) MHz, C = 2060.247(3) MHz, ΔJ = 0.39(3) kHz, ΔJK = 0.26(1) kHz, δK = 1.606(9) kHz, δJ = 0.059(1) kHz, and δJK = -0.58(2) kHz for cis-CHFCHFCF2. A structure is derived from the moment of inertia data by fixing 3 parameters associated with the CF2 group. The rs parameters for the -CHFCHF-segment of the mol. in the CHFCHFCF2 isotopic frame are r(C2-C3) = 1.533(3)Å, r(C2,3-H) = 1.099(3)Å, r(F2...F3) = 2.775(2) Å, and r(H2...H3) = 2.622(2)Å. Two algorithms describing the C-C and C-F bond distances are fitted to gas phase structural data for a series of fluorinated cyclopropane derivs. A partial test of these algorithms is obtained from the structure of cis-CHFCHFCF2. The structural results are related to theor. studies of fluorination effects in cyclopropane derivs.

AN 1991:71347 CAPLUS

DN 114:71347

TI Structural effects in fluorinated cyclopropanes: a microwave study of cis-1,1,2,3-tetrafluorocyclopropane

AU Beauchamp, R. N.; Gillies, C. W.; Gillies, J. Z.

CS Dep. Chem., Rensselaer Polytech. Inst., Troy, NY, 12180, USA

SO Journal of Molecular Spectroscopy (1990), 144(2), 269-85
CODEN: JMOSA3; ISSN: 0022-2852

DT Journal

LA English

L23 ANSWER 49 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN

TI Surface composition and distribution of fluorine in plasma-fluorinated polyimide

AB Surface composition, F distribution, and morphol. were determined for Du Pont 5878 polyimide films modified downstream from microwave plasmas

containing CF4/O. Complementary anal. techniques including XPS, Rutherford backscattering spectroscopy, and SEM yielded a more complete understanding of polyimide fluorination and subsequent etching of the modified film. Depth of fluorination increased nonlinearly with treatment time for films exposed downstream from a CF4-rich plasma. Exposure downstream from an O-rich plasma resulted in a reduction of thickness in both the fluorinated layer and the unmodified polyimide during etching. A model for fluorination of polyimide and subsequent removal was proposed.

AN 1988:455648 CAPLUS
DN 109:55648
TI Surface composition and distribution of fluorine in plasma-fluorinated polyimide
AU Matienzo, L. J.; Emmi, F.; Egitto, F. D.; Van Hart, D. C.; Vukanovic, V.; Takacs, G. A.
CS Syst. Technol. Div., IBM Corp., Endicott, NY, 13760, USA
SO Journal of Vacuum Science & Technology, A: Vacuum, Surfaces, and Films (1988), 6(3, Pt. 1), 950-3
CODEN: JVTAD6; ISSN: 0734-2101
DT Journal
LA English

L23 ANSWER 50 OF 69 CAPLUS COPYRIGHT 2007 ACS on STN
TI Application of microwave technology to the synthesis of short-lived radiopharmaceuticals
AB The use of conventional heating was compared with heating with microwave ovens in the synthesis of radiopharmaceuticals. Nucleophilic substitution reactions of activated nitrobenzenes with [18F]fluoride and isotopic exchange reactions of activated and deactivated halogenoarenes using [18F]fluoride and [131I]iodide were examined
AN 1988:62407 CAPLUS
DN 108:62407
TI Application of microwave technology to the synthesis of short-lived radiopharmaceuticals
AU Hwang, D. R.; Moerlein, S. M.; Lang, L.; Welch, M. J.
CS Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SO Journal of the Chemical Society, Chemical Communications (1987), (23), 1799-801
CODEN: JCCCAT; ISSN: 0022-4936
DT Journal
LA English

=> d his

(FILE 'HOME' ENTERED AT 09:18:01 ON 04 JAN 2007)

FILE 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC, INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:07 ON 04 JAN 2007

INDEX 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC, INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:17 ON 04 JAN 2007

SEA FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O

4* FILE AGRICOLA
0* FILE ALUMINIUM
12 FILE ANABSTR
13* FILE APOLLIT
1 FILE AQUALINE

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               93*  FILE BABS
               35   FILE BIOTECHNO
               13   FILE CABA
                2   FILE CAOLD
             1249   FILE CAPLUS
               17   FILE CBNB
                5*  FILE CEABA-VTB
                8   FILE CIN
               83   FILE COMPENDEX
                2*  FILE CONFSCI
                0*  FILE CORROSION
               65   FILE DISSABS
                5*  FILE ENCOMPLIT
               15   FILE INSPEC
                2*  FILE INSPHYS
                1*  FILE IPA
               87*  FILE JICST-EPLUS
                2   FILE KOSMET
               21   FILE NTIS
               45*  FILE PAPERCHEM2
              120   FILE PASCAL
              116*  FILE PROMT
               42   FILE RAPRA
               41   FILE RDISCLOSURE
              342   FILE SCISEARCH
                4   FILE TULSA
                1   FILE TULSA2
                3   FILE WATER
                1   FILE WELDASEARCH
               49   FILE WSCA
L1               QUE FLUORINAT? AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
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     FILE 'CAPLUS' ENTERED AT 09:20:30 ON 04 JAN 2007
L2            469 S FLUORINATION AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE O
L3            300 S L2 AND SYNTHE?
L4            265 S L3 NOT PY>2002
L5              5 S L4 AND SACCHARIDE
L6         257181 S SUGAR AND (?ACCHARIDE OR SUGAR OR GLUCOSE OR SUCROSE OR RIBOS
L7             75 S L4 AND SUGAR
L8             53 S FLUORINATION AND (CARBOHYDRATE OR SACCHARIDE)
L9             46 S L8 NOT PY>2002
L10            29 S L9 AND SYNTHESIS

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     FILE 'REGISTRY' ENTERED AT 09:41:59 ON 04 JAN 2007
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               EXP DBDA/CN
L11            1 S E3

     FILE 'CAPLUS' ENTERED AT 09:43:13 ON 04 JAN 2007
L12          118 S FLUORINATION AND MICROWAVE
L13           73 S L12 NOT PY>2002
L14            6 S L13 AND NUCLEOPH?
L15            0 S L13 AND HYDROXYL
L16            0 S L13 AND DIOL
L17            0 S L13 AND EPOXIDE
L18           15 S DEOXYFLUORINATION
L19            3 S L18 AND MICROWAVE
L20           15 S FLUORINATION AND MICROWAVE AND NUCLEOPHILIC
L21          118 S FLUORINATION AND MICROWAVE
L22          112 S L21 NOT AROMATIC
L23           69 S L22 NOT PY>2002
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L24             0 S L23 AND (CARBOHYDRATE OR SACCHARIDE OR RIBOS? OR ARABINOS?)
L25             0 S L23 AND SN2
L26             0 S L23 AND DISPLACEMENT

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CA SUBSCRIBER PRICE                                   -17.16     -27.30

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                   155.16     349.89

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http://www.cas.org/ONLINE/UG/regprops.html

=> exp triethylamine hydrofluoride/cn
E1            1     TRIETHYLAMINE HEXAHYDROFLUORIDE/CN
E2            1     TRIETHYLAMINE HYDROCHLORIDE-D/CN
E3            0 --> TRIETHYLAMINE HYDROFLUORIDE/CN
E4            1     TRIETHYLAMINE HYDROGEN MALEATE/CN
E5            1     TRIETHYLAMINE HYDROIODIDE/CN
E6            1     TRIETHYLAMINE IODOACETATE/CN
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E7            1     TRIETHYLAMINE ISOBUTYLDITHIOCARBAMATE/CN
E8            1     TRIETHYLAMINE KALIBOR SALT/CN
E9            1     TRIETHYLAMINE LACTATE/CN
E10           1     TRIETHYLAMINE LAURETH SULFATE/CN
E11           1     TRIETHYLAMINE LAURYL SULFATE/CN
E12           1     TRIETHYLAMINE M-BROMOBENZOATE/CN

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                     0.45     350.34

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                                     0.00     -27.30

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FILE LAST UPDATED: 3 Jan 2007  (20070103/ED)

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=> s fluorination and microwave and triethylamine
         16980 FLUORINATION
        114727 MICROWAVE
         31838 TRIETHYLAMINE
L27          3 FLUORINATION AND MICROWAVE AND TRIETHYLAMINE

=> d l27 1-3 ti abs bib

L27  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2007 ACS on STN
TI   Preparation of α,α-difluoromethyl compounds from aldehydes
AB   R3CHF2 [R3 = (un)substituted alkyl, aryl] are prepared by reaction of R3CHO
     (R3 = same as above) with R0CF2NR1R2 [R0, R1, R2 = H, (un)substituted
     alkyl, aryl] and Et3N.nHF (n ≥1).  P-Me3CC6H4CHO was treated with
     m-MeC6H4CF2NEt2 and Et3N.3HF under microwave irradiation to give 80%
     p-Me3CC6H4CHF2.
AN   2005:1149601  CAPLUS
DN   143:405686
TI   Preparation of α,α-difluoromethyl compounds from aldehydes
IN   Hara, Masaharu; Fukuhara, Tsuyoshi
PA   Mitsubishi Gas Chemical Co., Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 11 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005298363	A	20051027	JP 2004-113302	20040407
PRAI	JP 2004-113302		20040407		
OS	MARPAT 143:405686				

L27 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
TI Method of fluorination using N,N-diethyl-α,α-difluorobenzylamines
AB Disclosed is a method in which a glucide, examples of which include a monosaccharide, an oligosaccharide, a polysaccharide, a composite saccharide comprising any of these saccharides and a protein or lipid bonded thereto, a polyalc., an aldehyde, ketone, or acid of a polyalc., a derivative or condensate of any of these, is reacted with a fluorinating agent represented by the general formula of RCF2-Y(R1)R2 [y = N, P; R-R2 are same or different group selected from H and each (un)substituted alkyl and aryl; or ≥2 of R-R2 groups are bonded to each other to form a ring] either thermally or by irradiation with microwave or an electromagnetic wave with a wavelength around the microwave region. By the method, fluorination reaction can be safely conducted position-selectively even in a temperature range of 150 to 200°, in which fluorination has conventionally been difficult. The method in which the reactants are irradiated with microwave or an electromagnetic wave with a wavelength around the microwave region is applicable to substrates other than glucides. When a complex compound comprising HF and a base, for example, is reacted with a substrate by irradiation with microwave, fluorination in a specific position which has been difficult in conventional techniques proceeds highly selectively in a short time efficiently and safely. Thus, 10 mmol Me 2,3-O-isopropylidene-β-D-ribofuranoside, 12 mmol N,N-diethyl-α,α-difluoro-3-methylbenzylamine, and 20 mL heptane were added to a glass vessel reaction vessel coated with fluorinated resin, heated with 100° with stirring, and allowed to react for 50 min to give 55% Me 2,3-O-isopropylidene-5-deoxy-5-fluoro-β-D-ribofuranoside.
AN 2004:493719 CAPLUS
DN 141:38808
TI Method of fluorination using N,N-diethyl-α,α-difluorobenzylamines
IN Hara, Shoji; Fukuhara, Tsuyoshi
PA Mitsubishi Gas Chemical Company, Inc., Japan
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004050676	A1	20040617	WO 2003-JP15336	20031201
	W: CN, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	JP 2004182664	A	20040702	JP 2002-352968	20021204
	JP 2004189655	A	20040708	JP 2002-358249	20021210
	EP 1568703	A1	20050831	EP 2003-775984	20031201
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
	CN 1720256	A	20060111	CN 2003-80104679	20031201
	US 2006014972	A1	20060119	US 2005-537437	20050603
PRAI	JP 2002-352968	A	20021204		
	JP 2002-358249	A	20021210		
	WO 2003-JP15336	W	20031201		

OS CASREACT 141:38808; MARPAT 141:38808
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
TI Effective fluorination reaction with Et3N·3HF under microwave irradiation
AB Fluorination reaction of epoxides and alkyl mesylates can be effectively achieved by reaction with Et3N·3HF (N,N-diethylethanamine trihydrofluoride, I) under microwave irradiation The reaction time could be greatly reduced compared to the reaction under thermal conditions. The reactions were completed in a few minutes and the use of large excess of reagents could be avoided. For example, ring opening of 7-oxabicyclo[4.1.0]heptane with I under microwave irradiation gave (1R,2R)-rel-2-fluorocyclohexanol. Similarly, ring opening of decyloxirane gave 2-fluoro-1-dodecanol and 1-fluoro-2-dodecanol. Fluorination of benzenepropanol methanesulfonate gave (3-fluoropropyl)benzene.
AN 2003:477661 CAPLUS
DN 139:337726
TI Effective fluorination reaction with Et3N·3HF under microwave irradiation
AU Inagaki, Tomotake; Fukuhara, Tsuyoshi; Hara, Shoji
CS Division of Molecular Chemistry, Graduate School of Engineering, Hokkaido University, Sapporo, 060-8628, Japan
SO Synthesis (2003), (8), 1157-1159
CODEN: SYNTBF; ISSN: 0039-7881
PB Georg Thieme Verlag
DT Journal
LA English
OS CASREACT 139:337726
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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INDEX 'AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUALINE, AQUIRE, BABS, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CERAB, CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DISSABS, ENCOMPLIT, GENBANK, INSPEC, INSPHYS, IPA, JICST-EPLUS, KOSMET, METADEX, ...' ENTERED AT 09:18:17 ON 04 JAN 2007
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17	FILE CBNB
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8	FILE CIN
83	FILE COMPENDEX
2*	FILE CONFSCI